

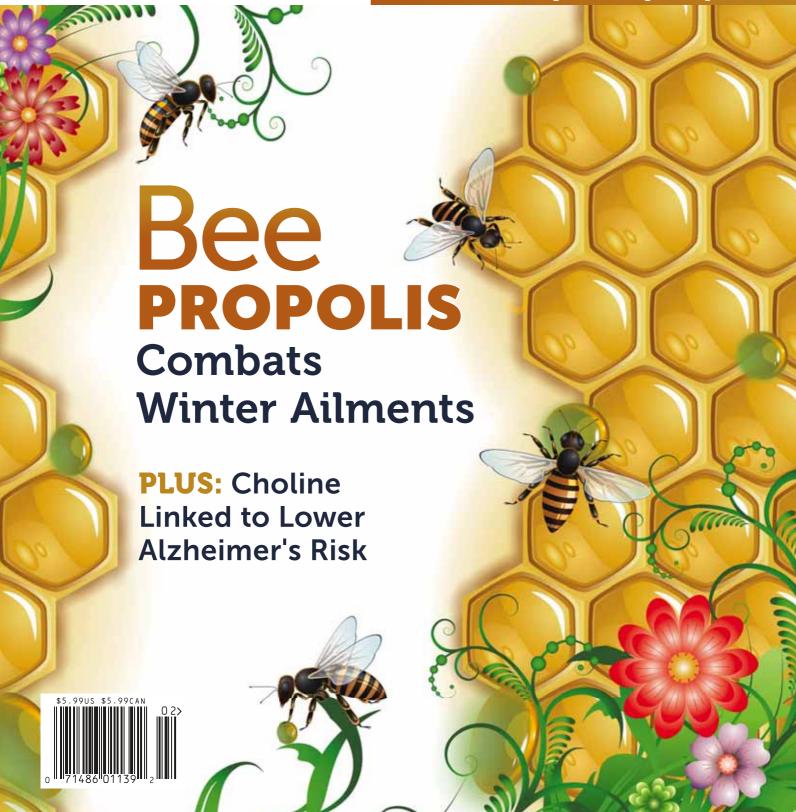
The Science of a Healthier Life®

LifeExtension.com

February 2026



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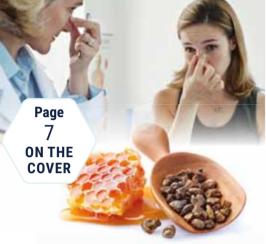
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A Bee Product That Reduces Sick Days

An anti-microbial substance made by bees can enhance immune defense against the common cold.

In human trials, propolis capsules reduced sick days by 34%, while a propolis throat spray resolved upper respiratory symptoms two days earlier than placebo.

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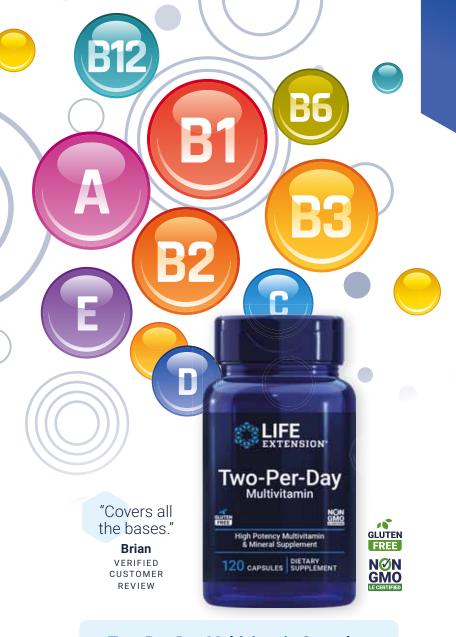
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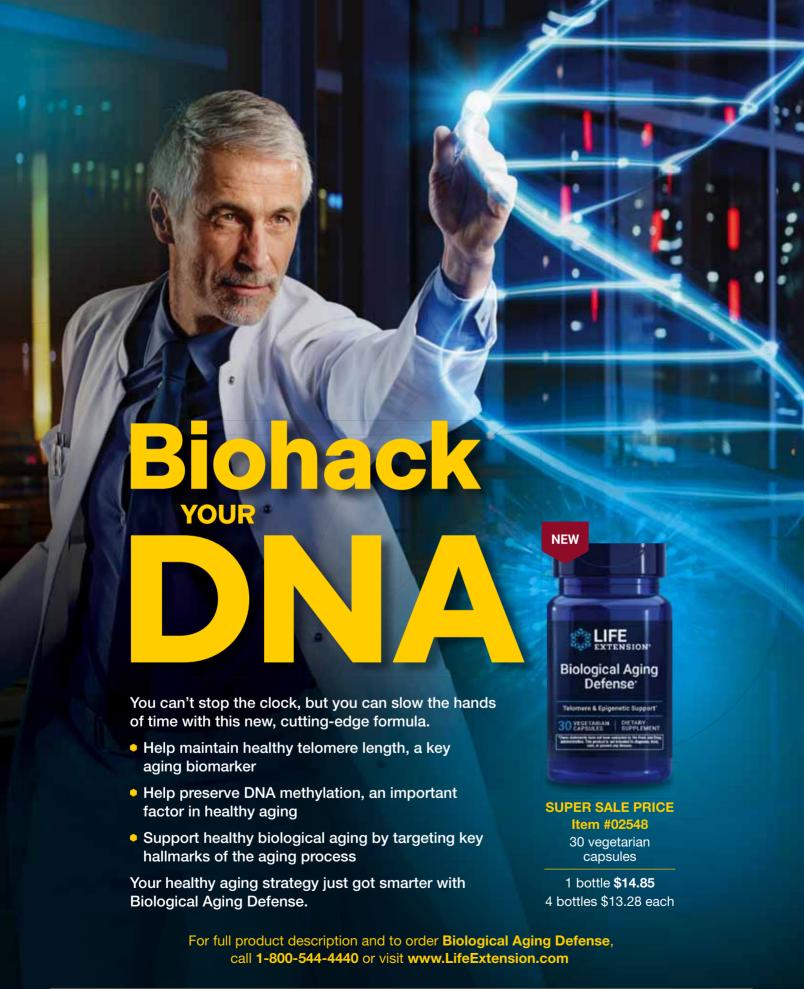


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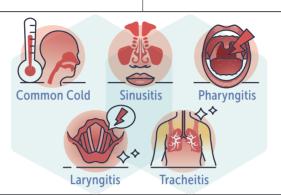
A Bee Product That Reduces Sick Days



WILLIAM FALOON

Each year millions of Americans suffer through upper respiratory tract infections.1

Many experience multiple episodes.²



The resulting impact on productivity and healthcare costs is substantial.

The most prevalent upper respiratory tract infection is the common cold.

While **over-the-counter (OTC)** medications offer some temporary symptom relief, they may do little to reduce the **duration** of illness or address the cause.^{3,4}

We've long questioned the prevailing medical model that prioritizes symptom suppression in lieu of <u>active</u> **intervention** and **prevention**. We have reported on research supporting immune modulating nutrients like zinc, lactoferrin, garlic, and vitamin D.



Propolis

New clinical research helps validate an option that has a history of beneficial purposes.

Propolis is a **bee-derived** substance that has been shown to enhance protection and recovery from **upper respiratory tract infections**.

In double-blind randomized placebo-controlled **clinical trials** of adults:

- Those with an upper respiratory tract infection who took an oral throat spray of propolis daily had their symptoms resolved two days faster than those receiving a placebo.⁵
- Those <u>without</u> an upper respiratory tract infection during the colder months who took oral capsules containing propolis daily reported 34% <u>fewer</u> sick days than those receiving placebo.⁶

When combined with other immune-supporting supplements it may be possible for even **faster** resolution of symptoms and enhanced defense against future infection.

Gaining Scientific Validation

Bees are responsible for the pollination of over 100 commercial crops in the United States.⁷ They also produce a substance that boosts **immune** functions.

Propolis is created primarily by **honeybees** when they mix their saliva and beeswax with pollen or resins gathered from buds or cracks in bark.⁸

Bees utilize propolis for a variety of purposes, such as to fill in cavities in the beehive and mummify intruders to prevent their decay.⁹

Ancient Greek, Roman, and Egyptian civilizations were documented as users of **propolis** for a variety of purposes.¹⁰

While propolis has been widely accessible in complementary medicine since the 1980s, only in the last **20** years has science been paying closer attention.¹¹

Researchers have discovered that propolis contains a variety of **polyphenols** that have **anti-microbial** and **anti-inflammatory** benefits.^{11,12}

The effects of propolis on the **immune system** may be two-fold:¹³

- Modulating innate (first line of defense) immune function, and
- 2. Enabling better adaptive (acquired) immunity.

Propolis has demonstrated in preclinical models that it may <u>increase</u> **natural killer** (NK) cell activity¹⁴ and modulates the function of monocytes that adversely

down-regulate certain immune activity. 13,15 NK cells and monocytes are types of white blood cells that are part of the **innate** immune system. 16

For a robust immune response, you want to temporarily up-regulate **NK cell** activity and turn down excess **monocyte** function.

Propolis may also increase **antibody** production from **B-cells** which are part of the **adaptive** immune response.¹⁷

One dilemma for **propolis supplements** is that the content of **polyphenols** can vary depending on what plant species the bees use, which changes based on the time of year and location.¹⁸

To overcome this obstacle, scientists developed methods to **standardize** propolis to a specific concentration of **polyphenols**. ¹⁸

A standardized propolis formula has been **clinically validated** in two delivery systems (capsules and spray) to provide immune support.

Clinical Trials Demonstrate Protection

Upper respiratory tract infections refer to acute infections of the mucosa lining in the upper respiratory tract caused by bacteria or viruses.

Infections classified in this way include the **common cold, pharyngitis** (sore throat), **sinusitis**, **laryngitis**, and **tracheitis**.

During the colder months, the risk of respiratory illnesses increases.¹⁹





In a randomized controlled trial, **295** healthy men and women between the ages of 25-69 were enrolled to study the effect **propolis** has on **upper respiratory tract infection** risk between the autumn and spring months.

One group took a capsule containing **200 mg** of **standardized propolis** at breakfast and another at dinner for a total of **400 mg** daily. The other group did the same with a **placebo**.

After **12 weeks** those who took **propolis** compared to **placebo** had:

- 29% fewer sick events,
- 31% <u>reduced</u> risk of experiencing respiratory discomfort, and
- 34% fewer sick days.⁶

Speeding the Pace of Recovery

Propolis may not only modulate the immune system to provide greater protection from new infections, but when taken as an **oral spray** (targeting the back of the throat), it may provide **faster relief** from an existing upper respiratory tract infection.

In a randomized-controlled trial, **122 people** aged 18-77 years old with a mild **upper respiratory tract** infection (viral or bacterial origin) were split into groups to receive an **oral propolis spay** or a **placebo**.

Dosing was 2-4 sprays three times a day for five days.

The participants' symptoms included sore throat, hoarseness, swelling, and/or redness. Infection was confirmed from a clinical evaluation and a microbial throat swab administered by a physician.

After three days, **83%** of subjects taking the **propolis** oral spray experienced remission in upper respiratory tract discomfort. Only **28%** of the **placebo** group experienced remission.

Mild respiratory tract discomfort cleared up **two days** *earlier* in the **propolis-supplemented** group.⁵

Summary

Upper respiratory tract infections are a huge burden on society.

When symptoms manifest, it is frustrating not to have immediate access to an intervention that may reduce symptoms and shorten duration.

Over-the-counter medications can help relieve some symptoms but do little to address the underlying causes.

Propolis is a bee-derived substance that has long been utilized in traditional medicine. It has been available as a dietary supplement for decades. In recent years scientists have been paying closer attention.

Taking **propolis** capsules during the colder months resulted in **34**% <u>fewer</u> sick days than for those receiving a placebo.

In the form of an **oral spray**, propolis resolved symptoms **two days** *faster* than **placebo**.

Combining **propolis** with other immune-supporting nutrients may offer even greater protection and recovery against common upper **respiratory tract** infections.

When symptoms develop, it's nice to have something on hand that may **shorten duration** and boost **immune functions**.

For longer life,

Wiliam Faloon, Co-Founder Life Extension

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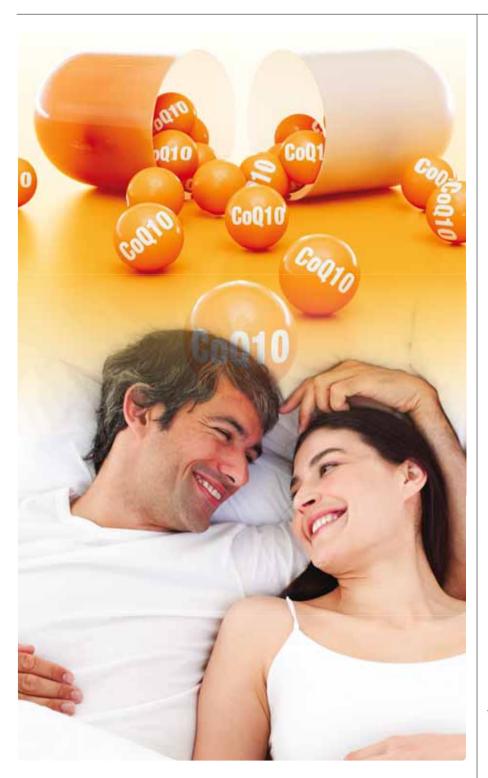




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In the News



CoQ10 Supplementation Benefits Male Infertility

A benefit was found for coenzyme Q10 (CoQ10) in the treatment of infertility in men, according to a systematic review and meta-analysis of randomized studies.*

Researchers reviewed eight studies that included a total of 781 men with infertility of unidentified cause.

Four hundred thirty men received CoQ10, and 351 men received a placebo or other control comparison.

CoQ10 doses ranged from 100 mg to 200 ma per day in the five studies that evaluated the effects of CoQ10 as a single nutrient.

The meta-analysis revealed a significantly *higher* sperm concentration among men who received CoQ10 when compared with a placebo control. Participants who received CoQ10 had significantly greater seminal volume and improved quality in studies that evaluated this parameter.

Sperm motility was also higher in CoQ10-treated men compared with the control participants.

Editor's Note: Two other studies, which documented pregnancy-rate outcomes, found a significantly higher rate in women whose partners received CoQ10.

* World J Mens Health. 2025 Aug 27.

Greater Choline Intake Linked to Lower Alzheimer's Risk

A study reported in *The Journal of Nutrition* revealed a link between dietary intake of **choline** and a lower risk of developing Alzheimer's in older adults.*

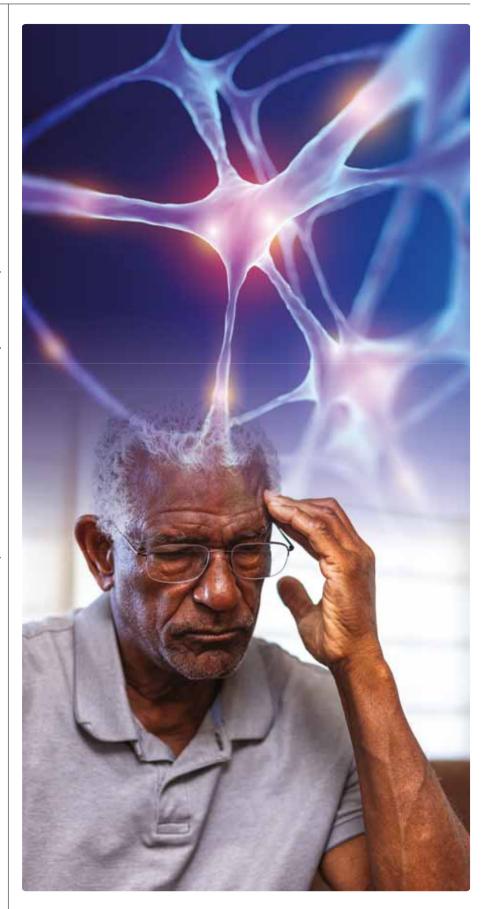
The study examined the daily choline intake of 991 men and women enrolled in the Rush Memory and Aging Project prospective cohort.

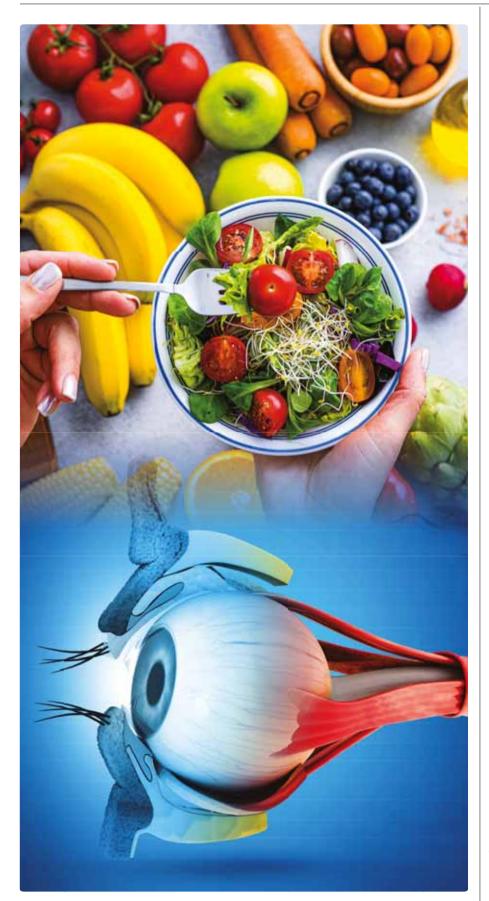
The participants, whose age averaged 81 years at the beginning of the study, were followed for an average of about eight years, during which 266 participants were diagnosed with Alzheimer's dementia.

Compared with those whose intake of choline was lowest, at less than 200 mg per day, participants whose intake was highest, at over 350 mg per day, had a 51% lower risk of developing Alzheimer's dementia. An intake of 251 mg-300 mg was associated with a 40% lower risk and 301 mg-350 mg was associated with a 38% risk reduction.

Editor's Note: Choline is an essential nutrient that is used by the body to form the neurotransmitter acetylcholine, which facilitates the transmission of impulses between nervous system cells known as neurons and is needed for memory and learning.

* J Nutr. 2025 May 28:S0022-3166(25)00297-4.





Antioxidant-Rich Diets Linked with Lower Glaucoma Risk

An observational study uncovered an association between improved antioxidant status and a lower risk of glaucoma, an eye disease marked by increased eye pressure in which oxidative stress plays a role.*

The investigation included 4,909 men and women aged 20 years and older who participated in the 2005-2008 National Health and Nutrition Examination Survey (NHANES). Glaucoma had been diagnosed among 325 participants.

Responses to dietary interviews were analyzed to obtain Dietary Oxidative Balance Scores; components included carotenoids, riboflavin, niacin, total folate, vitamins B6, B12, C and E, fiber, calcium, magnesium, selenium, zinc, copper, total fat and iron.

Each unit increase in Dietary Oxidative Balance Scores was associated with a 4% reduction in glaucoma risk. Men and women whose Dietary Oxidative Balance Scores were among the top 25% of participants had a 61% lower risk of glaucoma than those among the lowest 25%.

Editor's Note: The association between dietary oxidative balance and glaucoma was greater among men, smokers and former smokers, and other subgroups.

Everyone starting at around age 40 should have a comprehensive eye exam that includes a test for intraocular pressure to detect and prevent optic nerve damage at its earliest stages.

* Eye (Lond). 2025 Sep;39(13):2527-2533

Olive Oil Compound Supports Healthy Inflammatory Response in Prediabetics

A randomized-controlled trial found improvements in antioxidant status and inflammatory response in overweight men and women with prediabetes who were given **hydroxytyrosol**, a compound that occurs in olive oil.*

The trial evaluated 49 overweight prediabetic people who received **15 mg** of hydroxytyrosol or a placebo for 16 weeks.

At the beginning and end of the trial, the researchers measured:

- Oxidized LDL,
- Total antioxidant status,
- Glutathione peroxidase (antioxidant enzyme),
- Interleukin-6 (inflammatory marker), and
- Protein carbonyls and 8-OHdG (markers of oxidative stress).

Compared to the placebo group, people who received **hydroxytyrosol** had significant <u>reductions</u> in oxidized LDL, protein carbonyls, and 8-OHdG. They maintained their total antioxidant status and glutathione peroxidase activity, but had lower interleukin-6 levels, which indicated reduced **inflammation**.

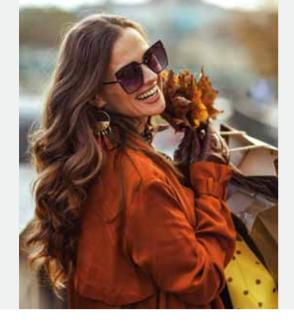
Editor's Note: The Mediterranean diet's health benefits have been attributed in part to a high intake of olive oil. "Olive oil polyphenols have attracted significant scientific interest, particularly after the European Food Safety Authority approved the claim that 'olive oil polyphenols contribute to the protection of low-density lipoproteins (LDL) from oxidative damage,' an effect linked to their antioxidant capacity," the authors wrote.

Hydroxytyrosol is included in certain supplements designed to mimic some of the beneficial effects of **olive oil** and the Mediterranean diet.

* Clin Nutr. 2025 Sep:52:17-26.









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1. Aging Dis. 2023 Aug 1;14(4):1184-1195.

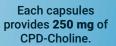
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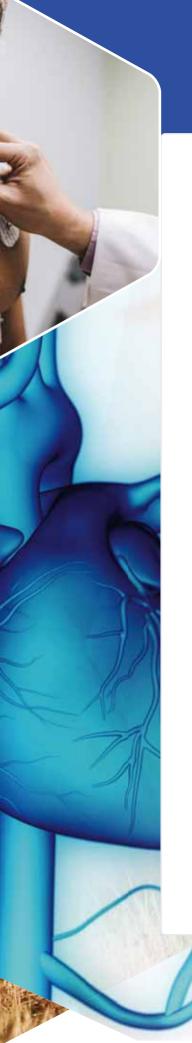
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How QUERCETIN Boosts Heart Health

BY RYAN MCCORMICK

Cardiovascular disease is the *leading cause of death* worldwide.¹

Scientists have long known that a diet rich in **plant-derived** compounds called **flavonoids** correlates with a reduced risk of **cardiovascular diseases**.²

Ouercetin is one of the most common flavonoids.3

Research shows that it supports **heart health** in multiple ways, reducing mechanistic factors for cardiovascular disorders and displaying cardioprotective properties.^{3,4}

In human studies, quercetin:

- Lowered blood pressure, 5-7
- Reduced total cholesterol⁸ and oxidized LDL cholesterol,⁹
- Lowered markers of chronic inflammation tied to cardiovascular disease,^{8,10,11}
- And more.

These actions can help improve **heart health** and reduce risk for heart disease.





Cardiovascular Risk Factors

Risk factors for **cardiovascular disease** include obesity, poor diet, smoking, high blood pressure, high blood glucose, elevated triglycerides, high apolipoprotein B that indicates greater numbers of circulating atherogenic particles such as small dense LDL, and *low* **HDL** ("good") cholesterol.¹²

Any <u>one</u> of the above factors can cause occlusion of arteries feeding the heart, brain and other tissues.

Identifying and managing these risk factors can significantly lower the chance of developing cardiovascular disease *and* reduce the risk of complications such as fatal **heart attacks** and **strokes** in those who already have it.¹²

Quercetin Protects the Heart

Flavonoids are compounds found in plant foods like fruits, vegetables, and whole grains. They have properties that are known to help protect the heart.²

Quercetin is one of the most potent flavonoids. It is found in onions, apples, tea, citrus fruits, and red wine.¹³

It has a long list of benefits, including anti-cancer activity, blood glucose control, and many different actions that support **heart** health.^{3,14}

Chronic inflammation and oxidative stress are drivers of most chronic illnesses, including cardiovascular disease. They contribute to the development and progression of atherosclerosis (the buildup of plaque in blood vessels) and to degenerative changes in the heart.¹⁵

As an **antioxidant/anti-inflammatory**, quercetin protects against this damage.^{3,4}

Quercetin has been shown to improve other cardiovascular risk factors in preclinical and clinical studies:

- Reducing blood pressure,^{5,6}
- Activating key metabolic pathways, such as AMPK, which enhance metabolism and help reverse insulin resistance.¹⁶⁻¹⁸
- Supporting endothelial function,¹⁹
- Improving blood glucose control,²⁰
- Reducing plaque-promoting adhesion molecules, protecting blood vessel function, and helping to prevent clot formation.^{21,22}
- Blocking the formation of oxidized LDL, a major driver of vascular damage in blood vessels and plaque formation and growth,²⁰
- Reducing inflammation and oxidative stress,²³ and
- Decreasing liver fat accumulation.²⁴

What Human Studies Show

A meta-analysis of 39 population studies found that <u>higher</u> **flavonoid** intake is associated with <u>lower</u> **cardiovascular** risk.²

When researchers looked at specific flavonoids, they found that **quercetin** intake was associated with reduced risk of **coronary heart disease**,² which occurs when the arteries do not deliver enough oxygen-rich blood to the heart. This is the most common type of heart disease.²⁵

Clinical studies have shown the benefits of quercetin. For example, quercetin intake (ranging from **150 mg** to **1,000 mg** daily) has been shown to lower **blood pressure**.^{5-7,26}

Human studies have also shown that quercetin intake improves **abnormal lipid** levels.^{8,9,27}

In a randomized, placebo-controlled crossover trial of overweight adults with metabolic risk factors, **150 mg** of quercetin daily raised blood levels of the compound and led to small but significant reductions in systolic blood pressure and oxidized LDL, an atherogenic marker. These benefits occurred without adverse effects.⁹

One meta-analysis of human trials found that quercetin supplementation reduced both systolic and diastolic blood pressure. In individuals who took quercetin for more than eight weeks, it also lowered triglycerides and raised HDL ("good") cholesterol.⁵

Other trials have shown that quercetin intake can lower markers of systemic **chronic inflammation** tied to cardiovascular disease.^{8,10,11} Some of this effect is a result of quercetin's ability to *inhibit* activity of **NF-kB** (nuclear factor-kappa B), a protein complex that produces pro-inflammatory compounds.¹⁰

A systematic review and meta-analysis of **human** studies found that quercetin reduced total cholesterol, LDL ("bad") cholesterol, and C-reactive protein (a marker of systemic inflammation) among patients with metabolic disease.⁸

Quercetin doesn't just reduce risk factors for cardiovascular disease. It also *improves heart function* itself.

Quercetin's Cardiovascular Benefits

- Cardiovascular disease is the leading cause of death worldwide.
- Risk factors for heart disease include high blood pressure, abnormal cholesterol levels, elevated blood glucose, obesity, poor diet, and smoking.
- Quercetin is a flavonoid found in fruits, vegetables, and herbs. It supports heart health by multiple mechanisms.
- In human studies, quercetin reduced high blood pressure, lowered LDL cholesterol, raised HDL cholesterol, and reduced markers of chronic inflammation, all of which help lower the risk of developing cardiovascular disease, and of cardiovascular incidents.
- Quercetin also improved heart function in people with a history of heart disease or metabolic risk factors.

In a 12-month controlled trial in patients being treated for **gout** and **high blood pressure** (which are both associated with increased risk of heart disease), the addition of **quercetin** to standard therapy improved heart function and normalized blood pressure.²⁸

In another study, quercetin intake improved the heart function of patients with a history of **coronary artery disease.**²⁹ Electrocardiogram monitoring in these individuals found <u>fewer</u> episodes of **cardiac ischemia** (reduction of blood flow to the heart) and of **abnormal heartbeats**.

These and other studies show that **quercetin** can reduce risk factors for heart disease and improve heart function.

Summary

Increased intake of **flavonoids**, compounds found in many plant foods, is associated with lower risk of **cardiovascular disease**.

Quercetin, one of the most potent flavonoids, supports heart health by multiple mechanisms, including lowering blood pressure, improving lipid levels (reducing LDL, increasing HDL), reducing markers of chronic inflammation, protecting blood vessels, and improving heart function.

Human studies show that quercetin intake can <u>reduce</u> cardiovascular risk factors and <u>improve</u> heart function in people with or at risk for heart disease. ■



If you have any questions on the scientific content of this article, please call a **Life Extension** Wellness Specialist at 1-866-864-3027.

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Fenugreek Seed Fibers Help Boost Quercetin Bioavailability

Flavonoids like quercetin suffer from poor bioavailability, but scientists have found that when combined with fenugreek seed fibers, bioavailability **improves** tremendously.

In one clinical study, researchers compared a fenugreek-quercetin formulation to unformulated quercetin. They found that formulated quercetin delivered up to **62 times** *greater* bioavailability compared to unformulated quercetin.³⁰

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	4+ units	—	^{\$} 23.18 ea.	19%
Vitamin D3 • 125 mcg (5000 IU) • 60 softgels (2-month supply) High-potency vitamin D supports immune function.	1 unit	\$ 7.50	\$6.75	10%
	4+ units	—	\$5.85 ea.	22%
MacuGuard® Ocular Support with Saffron & Astaxanthin 60 softgels • Just one softgel per day (2-month supply) Lutein, trans-zeaxanthin, meso-zeaxanthin, astaxanthin, and saffron help maintain structural integrity of the macula and retina.	1 unit	\$ 32.25	\$29.03	10%
	4+ units	—	\$26.10 ea.	19%
Bone Restore Calcium Supplement with Vitamin K2 120 capsules • Nutrients to maintain bone density and strength including four types of calcium.	1 unit	^{\$} 18.00	^{\$} 16.20	10%
	4+ units	—	^{\$} 14.85 ea.	18%
Skin Restoring Ceramides • 30 liquid vegetarian capsules Hydrate skin and smooth the appearance of fine lines and wrinkles from the inside out.	1 unit	\$ 18.75	^{\$} 16.88	10%
	4+ units	—	^{\$} 15.53 ea.	17%
AMPK Metabolic Activator • 30 vegetarian tablets Fight both abdominal and overall fat. This supplement should be taken in conjunction with a healthy diet and regular exercise program. Individual results are not guaranteed, and results may vary.	1 unit	\$28.50	\$25.65	10%
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NAD ⁺ Cell Regenerator [™] and Resveratrol Elite [™] 30 vegetarian capsules Healthy aging, energy pathway support, advanced formula.		Call or visit LifeExtension.com/NAD for your Sale Price		
IE HEALTH				
Zinc Caps • 50 mg • 90 vegetarian capsules	1 unit	^{\$} 6.75	^{\$} 6.08	10%
Support for the body's natural immune defenses.	4+ units	—	^{\$} 5.40 ea.	20%
Vitamin C 24-Hour Liposomal Hydrogel™ Formula 60 vegetarian tablets • Liposomal Hydrogel™ Formula absorbs much better than standard vitamin C as calcium ascorbate, staying in your system up to 24 hours.	1 unit	\$25.50	\$22.95	10%
	4+ units	—	\$20.70 ea.	19%
Super Selenium Complex • 200 mcg • 100 vegetarian capsules Three different forms of selenium that support healthy aging, thyroid and immune function.	1 unit	\$ 10.50	\$9.45	10%
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IE HEALTH Zinc Caps • 50 mg • 90 vegetarian capsules Support for the body's natural immune defenses. 1 unit 4+ units Vitamin C 24-Hour Liposomal Hydrogel** Formula 60 vegetarian tablets • Liposomal Hydrogel** Formula absorbs much better than standard vitamin C as calcium ascorbate, staying in your system up to 24 hours. Super Selenium Complex • 200 mcg • 100 vegetarian capsules Three different forms of selenium that support healthy aging,	30 liquid vegetarian capsules • Improved formula! Combines a postbiotic to relieve GI discomfort, probiotics for digestion & a phage blend for balance. Vitamin D3 • 125 mcg (5000 IU) • 60 softgels (2-month supply) High-potency vitamin D supports immune function. MacuGuard® Ocular Support with Saffron & Astaxanthin 60 softgels • Just one softgel per day (2-month supply) 4+ units — MacuGuard® Ocular Support with Saffron & Astaxanthin, and saffron help maintain structural integrity of the macula and retina. 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Bone Restore Calcium Supplement with Vitamin K2 120 capsules • Nutrients to maintain bone density and strength including four types of calcium. Skin Restoring Ceramides • 30 liquid vegetarian capsules Hydrate skin and smooth the appearance of fine lines and wrinkles from the inside out. AMPK Metabolic Activator • 30 vegetarian tablets Fight both abdominal and overall fat. This supplement shoulds be taken in conjunction with a healthy diet and regular exercise program. Including and part of guaranteed, and results may very. NAD* Cell Regenerator™ and Resveratrol Elite™ 30 vegetarian capsules Healthy aging, energy pathway support, advanced formula. IE HEALTH Zinc Caps • 50 mg • 90 vegetarian capsules 1 unit \$6.75

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HEART	HEALTH				
01827	Taurine • 1000 mg • 90 vegetarian capsules Taurine capsules to support cardiovascular health.	1 unit 4+ units	\$ 9.75 —	^{\$} 8.78 ^{\$} 8.10 ea.	10% 17%
02334	Super K • 90 softgels • (3-month supply) Vitamin K supplement with K1 and two forms of K2.	1 unit 4+ units	\$ 24.00 —	\$21.60 \$19.80 ea.	10% 18%
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02538	Hair Growth for Men • 30 softgels Supports hair fullness and density, promotes hair health, and helps reduce shedding, as seen in a 4-month clinical trial.	1 unit 4+ units	\$ 21.00 —	^{\$} 18.90 ^{\$} 17.10 ea.	10% 19%

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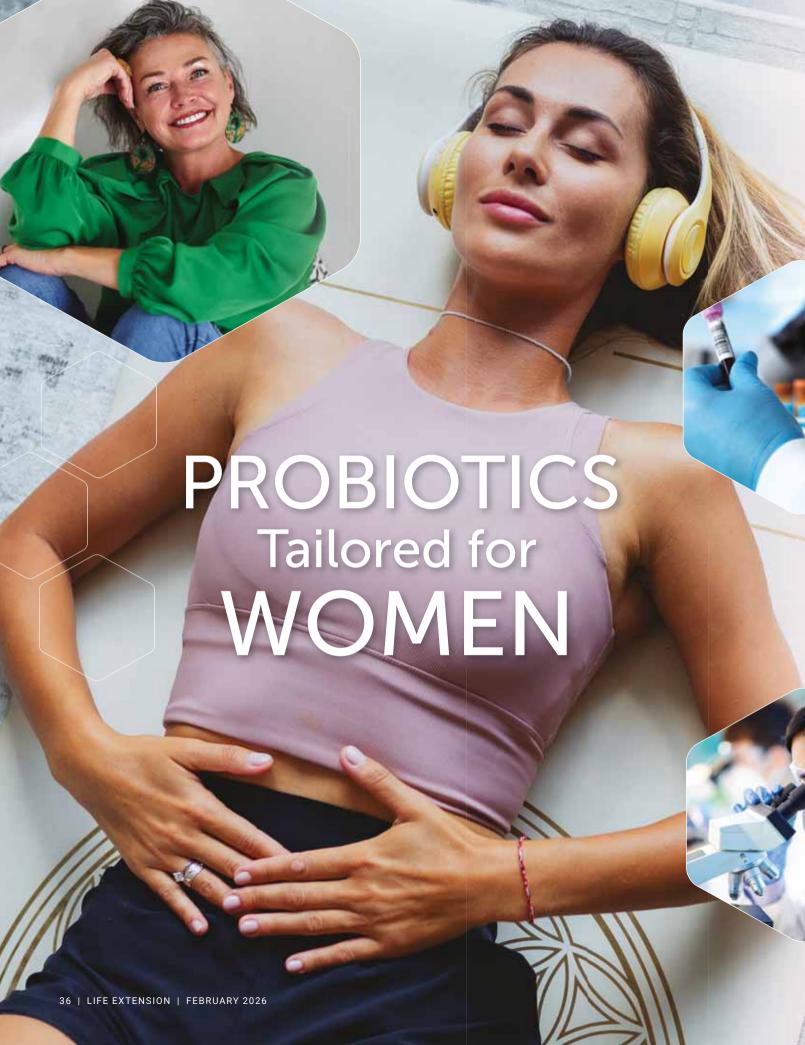
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Women's Intimate Health

Just like the gut microbiome, the vaginal flora can be healthy or unhealthy.

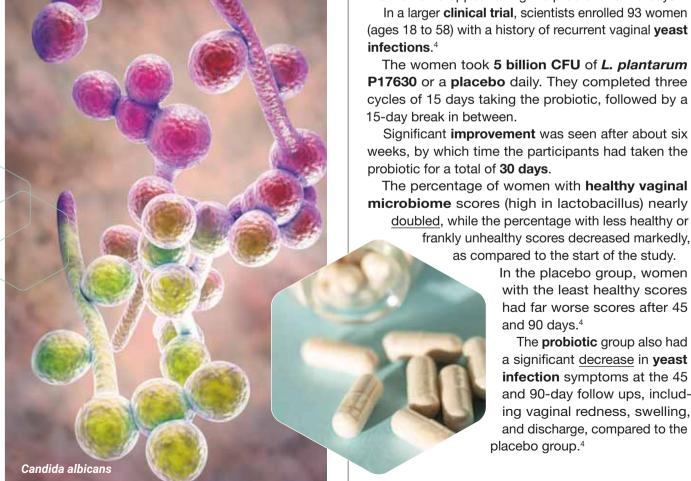
A healthy vaginal flora is typically high in Lactobacillus bacteria.7

Lactobacillus produces lactic acid to help maintain a slightly acidic (lower pH) environment that deters the growth of harmful bacteria.8,9

When the vaginal floral balance is upset (known as dysbiosis), Candida yeast can overgrow and cause a yeast infection. Candida albicans is the most common yeast species involved.8

Yeast infections are extremely common. Symptoms include vaginal itching, burning, and discharge.8,10

Standard antifungal treatments often fail in recurrent yeast infections because the Candida forms protective biofilms that make it harder for the drugs to work. Harmful microbes like this can become resistant to medications when they're used repeatedly.11



Proven Vaginal Health Support

Probiotics are not only beneficial for gut health, they can also help support a balanced vaginal flora and improved gynecological wellness.

Scientists identified a bacterial strain. Lactobacillus plantarum P17630, that was present in women with healthy vaginal flora, supporting a more balanced vaginal environment.12

In a laboratory culture of human vaginal epithelial cells, Lactobacillus plantarum P17630 was demonstrated to adhere to the cells and to competitively inhibit Candida adhesion.13

To explore its effectiveness as an oral probiotic, a pilot study was conducted with six healthy women (ages 18 to 45) with normal vaginal flora.¹⁴

For 60 days, the women took L. plantarum P17630. After 30 days, results showed colonization of L. plantarum P17630 in the vagina of 80% of the women, leading to an improvement in the vaginal flora.14

These impressive results were maintained even after the women stopped taking the probiotic for 15 days.

In a larger clinical trial, scientists enrolled 93 women (ages 18 to 58) with a history of recurrent vaginal yeast

The women took 5 billion CFU of L. plantarum P17630 or a placebo daily. They completed three cycles of 15 days taking the probiotic, followed by a 15-day break in between.

Significant improvement was seen after about six weeks, by which time the participants had taken the probiotic for a total of 30 days.

The percentage of women with healthy vaginal microbiome scores (high in lactobacillus) nearly doubled, while the percentage with less healthy or

as compared to the start of the study.

In the placebo group, women with the least healthy scores had far worse scores after 45 and 90 days.4

The probiotic group also had a significant decrease in yeast infection symptoms at the 45 and 90-day follow ups, including vaginal redness, swelling, and discharge, compared to the placebo group.4

Bolstering Immune Defenses for Vaginal Health

Lactobacillus helveticus is recognized as a probiotic strain that helps support gut and immune health by promoting a balanced intestinal microbiome and limiting the growth of harmful microbes. 15 Constituents of L. helveticus strains have demonstrated beneficial immune effects in a preclinical setting.16

Preclinical research shows that L. helveticus can inhibit pathogens such as Listeria, 17 Candida, 18 and E. coli¹⁹ in both the gastrointestinal and vaginal environments.²⁰ Uncontrolled proliferation of these pathogens may lead to gastrointestinal problems and flu-like symptoms.

Clinical studies also show *L. helveticus* may help prevent gastrointestinal infections and influence immune activity.15

Ongoing stress can weaken a woman's immune system.²¹ Immune-supportive probiotics can boost defenses against infections throughout the body.²²

Researchers have also examined the *Lactobacillus* helveticus L10 strain specifically, finding that it can help support healthy immune function. In studies in elite athletes, L10 improved immune markers, an important benefit for athletes, whose intense training can temporarily weaken immune defenses and increase susceptibility to respiratory infections.

In a clinical trial, elite athletes took 20 billion CFU of Lactobacillus helveticus L10 or a placebo daily for 14 weeks during winter.5

The probiotic group reported 29% fewer upper respiratory infection symptoms, and infections lasted about 3.5 fewer days compared to the placebo group, a sign of improved immunity.5

Further analysis showed that total salivary IgA (immunoglobulin A) levels were maintained in the probiotic group.6

IgA is an antibody that provides the first line of mucosal immune defense against respiratory tract infections. IgA also supports immune defense in the vaginal tract.23

The placebo group had up to 35% reduction in salivary IgA, suggesting weakened immunity.6

Together, oral intake of L. plantarum P17630 and L. helveticus L10 may help address top health concerns of women and promote better vaginal, immune, and gut health.



Probiotics Just for Her

- Scientists have identified **probiotic** strains and dosages for women that help reduce vaginal yeast infections, and support gut and immune health.
- In a clinical trial, women who took Lactobacillus plantarum P17630 every day experienced a marked improvement in their vaginal flora and significantly reduced symptoms of vaginal yeast infections.
- In a clinical trial in elite athletes, daily oral intake of Lactobacillus helveticus **L10** supported the maintenance of **IgA**, an antibody that provides immune defense in the gastrointestinal, vaginal, and respiratory tract.
- A combination of *L. plantarum* P17630 and L. helveticus L10 delivers targeted support for a woman's vaginal health as well as her overall immunity.

Summary

Probiotics for **women's health** should be chosen based on clinically proven benefits, using specific strains and dosages.

Two clinical trials have demonstrated that daily oral intake of 5 billion CFU of *L. plantarum* P17630 can restore normal vaginal flora and reduce symptoms of yeast infections.

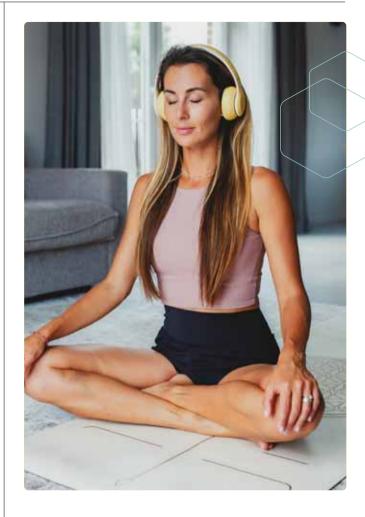
Additional **clinical research** suggests that taking **20 billion CFU** of **L. helveticus L10 daily can help bolster immune defenses.**

Combining these two probiotics provides well-rounded support for common health concerns of women.

If you have any questions on the scientific content of this article, please call a **Life Extension**Wellness Specialist at 1-866-864-3027.

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- Maintain already normal DHT levels (a hormone linked to maintaining hair follicle health).

In separate clinical trials, these standardized extracts show reduced hair shedding—by up to 48% in one study.¹

Another study showed a hair shedding reduction of up to 20%.² Some users noticed results in as little as two months.

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- 1. Akay Internal Study. Liposomal vitamin C (calcium ascorbate) pharmacokinetics. Data on file. 2021.
- 2. Akay Internal Study. Liposomal hydrogel vitamin C pharmacokinetics. Data on file. 2021.

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References

1. BJU Int. 2009 Aug;104(3):352-60. 2. BMC Complement Altern Med. 2018 Jan 31;18(1):42.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Female PROBIOTIC

FLORASSIST® PROBIOTIC Women's Health contains two probiotic strains.

One promotes microbial flora for **vaginal** health.

The other supports **digestive** and **immune functions**.

Several clinical trials have shown that:

- L. plantarum ROSELL®A oral intake helps restore and maintain a microbiome to support proper vaginal health.^{1,2}
- L. helveticus LAFTI® L10 promotes digestive health³ and encourages a healthy immune response.⁴

Just <u>one</u> capsule daily provides the broad **probiotic** support a woman needs.

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Contains soybeans.

L. plantarum ROSELLA is L. plantarum P17630 (Proge P17630°), licensed from PROGE FARM°, Italy.

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"I've noticed a big difference since taking these." Healthy Vaginal

Flora

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Understanding Brain Fog

Brain fog refers to feelings of "fuzzy" thinking, difficulty concentrating, and mental fatigue. It tends to come and go and is *not* the same as progressive cognitive decline or dementia.⁷

<u>Anyone</u> can have brain fog. But it tends to be more common in people with allergies, food or chemical sensitivities, immune and inflammatory disorders, and some conditions like fibromyalgia and chronic fatigue syndrome.⁸⁻¹⁵

Scientists analyzed the biological changes associated with these conditions and identified several possible causes of brain fog, including:

- Neuroinflammation. Inflamed nerves make it harder for brain cells to communicate. 16,17
- Excess histamine release. Too much histamine (the chemical that causes allergy symptoms) can disrupt neuronal activity.^{2,18}
- Neurotransmitter imbalances. When nerve messengers, such as dopamine and norepinephrine, are out of balance, it can derail brain signaling and information processing.⁴

Scientists searched the plant kingdom to find **caffeine-free** options that could prevent or *reverse* these changes and potentially combat brain fog.

This led them to **mango tree leaves** and **peppermint**.



Mango Leaf's Benefits

Mango tree leaves have traditionally been used in Asia and Africa to support respiratory health, blood sugar control, and energy levels.^{4,19-21}

The leaves are especially rich in health-promoting polyphenols with **antioxidant** and **anti-inflammatory** properties.¹⁹

A top **polyphenol** in mango leaves is **mangiferin**.²⁰ The leaves contain far more of this beneficial compound than *any* other part of the plant, including the fruit.⁴

Preclinical research has shown that mangiferin can cross the **blood-brain barrier** in sufficient amounts to support cognitive activity.^{4,22}

Mangiferin can <u>inhibit</u> **COMT**, an enzyme that <u>degrades</u> the neurotransmitters **dopamine** and **norepinephrine**. This action could support optimal brain signaling and function.

Preclinical research suggests mango leaf extract supports healthy histamine levels.^{4,23,24}

Clinical Trial Results

In two small placebo-controlled trials with healthy adult participants, scientists tested a **mango leaf extract** standardized to contain **60% mangiferin**.

In the first trial, the mango extract <u>reduced</u> selfreported **fatigue** by **47**% within 90 minutes of taking it.⁴

In the second trial, mango leaf <u>improved</u> **reaction time** by about **5**% in just 60 minutes.⁴

Brain activity recordings showed that taking mango leaf extract <u>increased</u> brain activity in regions associated with attention, complex cognitive processing, and memory.⁴

In another study, 70 healthy adults took **300 mg** of mango leaf extract or a placebo, then completed cognitive tests over five hours.

Taking the mango leaf resulted in significantly better **attention**, **working memory**, and **performance accuracy** on cognitively demanding tasks.⁵

The extract group also reported improved feelings of **calm** and **relaxation** throughout the testing day.

By contrast, **caffeine**, the go-to brain aid of many people, can sometimes cause jitters and **anxiety** in susceptible individuals.²⁵





Peppermint's Bio-Active Compounds

Peppermint contains compounds called **monoterpenes**, which have anti-inflammatory, antioxidant, and neuroprotective properties. These include **menthol** and **menthone**.²⁶

Preclinical research suggests that peppermint monoterpenes can help regulate **GABA** and **acetylcholine** in the brain.⁶ These neurotransmitters are important for cognition, mental alertness, and mood.^{27,28}

In a small study, university students who drank peppermint tea daily for a month had significant reductions in **anxiety** and **perceived stress** compared to those who didn't drink the tea.²⁹

The peppermint group also had significant improvements in **memory**, including the ability to recall **past events** and things they needed to do in the **future**.²⁹

Peppermint Oil and Cognition

Standardized **peppermint oil** may promote cognitive improvements.

In a clinical study, scientists gave 24 healthy young adults oral **peppermint oil** standardized to provide **60% monoterpenes** or a placebo.

Outsmart Brain Fog

- Brain fog, a feeling of "fuzzy" thinking, can make it hard to focus and stay mentally alert.
- Effective solutions address possible underlying causes of brain fog, including neuroinflammation, excess histamine release, and neurotransmitter imbalance.
- In clinical trials, mango leaf extract reduced fatigue by 47% and improved reaction time, attention, working memory, and performance accuracy.
- Peppermint oil improved mental fatigue, attention, and working memory in a separate clinical trial.
- Combining mango leaf extract and peppermint oil may optimize their support for mental sharpness and overcoming brain fog.

Participants then took mentally demanding cognitive tests to assess brain function.

One to three hours after taking **peppermint oil**, the participants had significantly:⁶

- Less development of mental fatigue.
- Improved accuracy in a test of attention, and
- Better working memory.

After taking the **placebo**, participants had *more* fatigue, inattention, and forgetfulness as cognitive testing went on.

Combining **peppermint oil** with **mango leaf** extract may help improve alertness, focus, and attention while decreasing feelings of brain fog.

Summary

Brain fog symptoms like difficulty thinking, focusing, and staying alert are very common.

Soon after taking standardized **mango leaf extract** or **peppermint oil**, clinical trial participants saw a boost in brain function, including reduced fatigue and improved attention and memory.

Combining these two plant-derived compounds could maximize their benefits against **brain fog**.

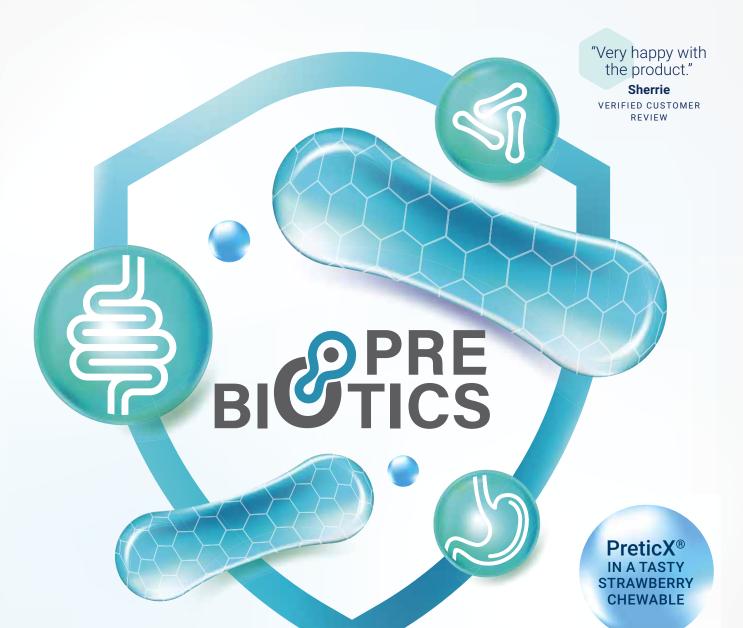
If you have any questions on the scientific content of this article, please call a **Life Extension**Wellness Specialist at 1-866-864-3027.

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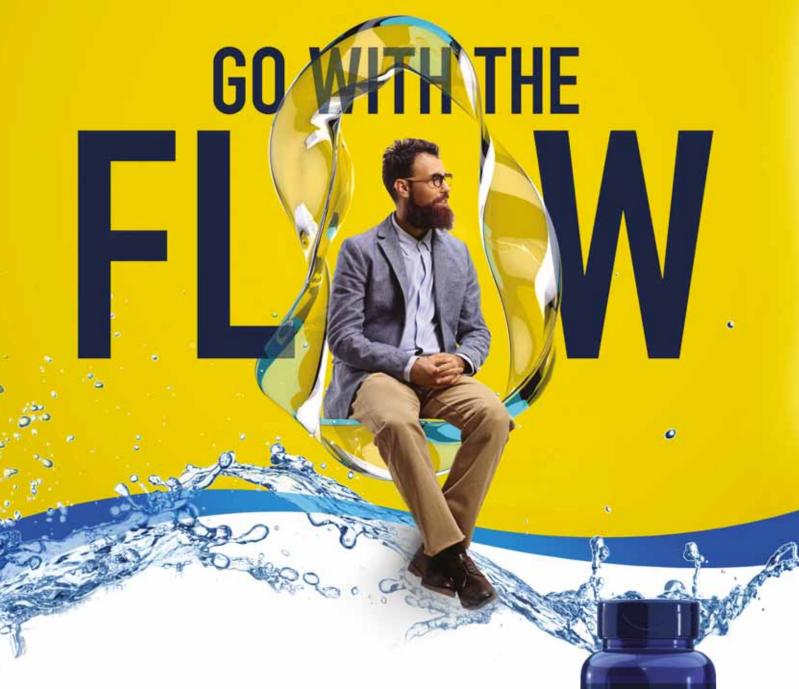
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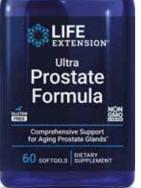
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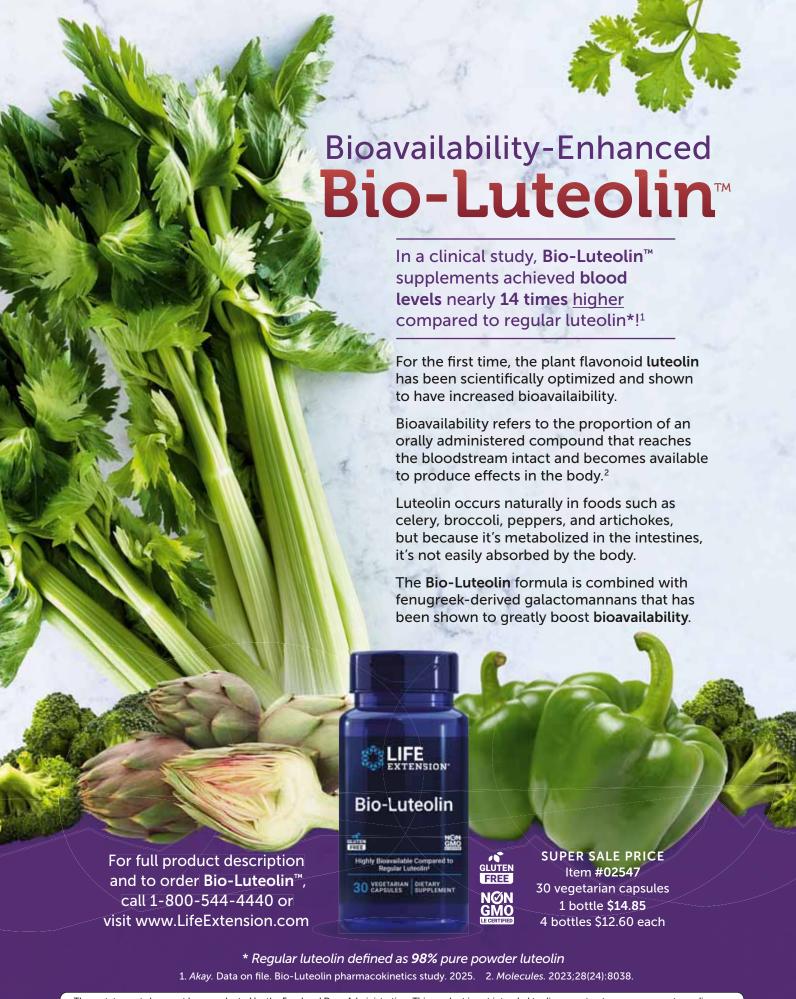


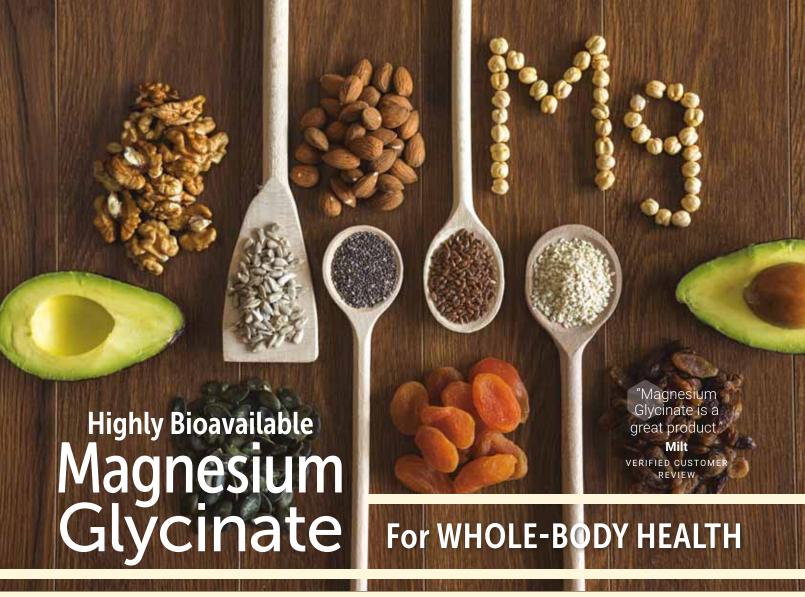




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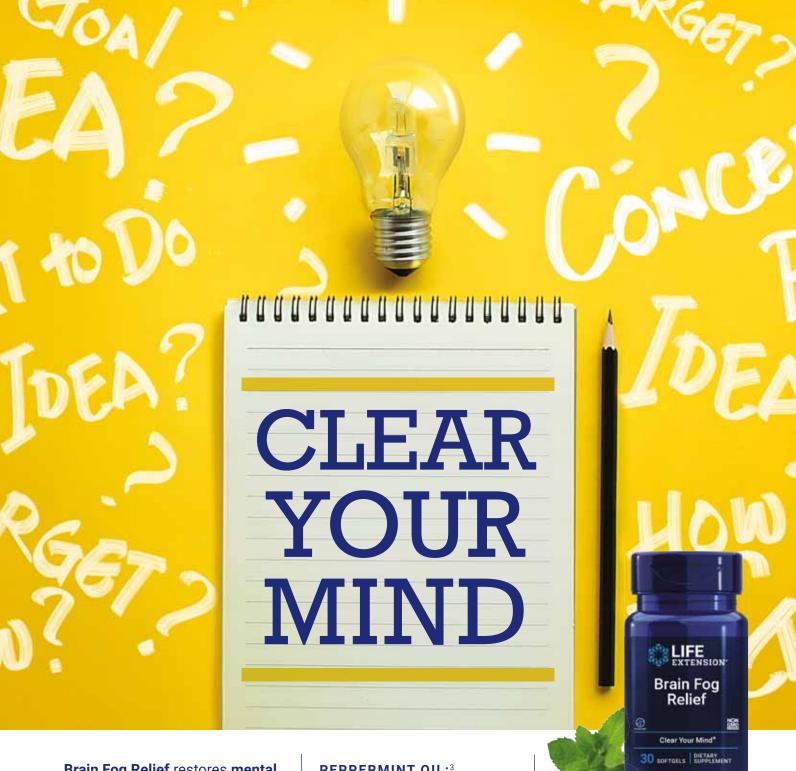
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Radiant SKIN from the INSIDE Out

Ancient Greek physicians believed that beauty *came* from within, prescribing special diets and herbal tonics for **radiant skin**.¹

Modern skincare has largely abandoned this philosophy, focusing instead on **topical treatments** that have only minor, temporary effects.

We've since learned that our dermal structures start to weaken much earlier than most people think.²

To counteract these degenerative changes, placebocontrolled clinical studies have been showing that **plant-based** oral extracts can help:

- Restore natural barrier function,
- Reduce wrinkle depth,
- Retain moisture,
- Improve texture, and
- Defend against environmental damage.

Most of you take steps now, such as ensuring enough **vitamin C** intake to maintain healthy **collagen**.

Ceramides and other plant extracts provide further support for more *youthful* skin structure and function.

Skin's Natural Defense System

Skin contains natural moisturizing compounds called ceramides that play a major role in skin barrier function.3

Like cellular mortar, ceramides hold skin cells together while creating a water-impermeable barrier that locks in moisture and keeps irritants out.3,4

Loss of our moisturizing lipid compounds leads to:4

- · A weakened moisture barrier, allowing increased water loss,4
- Persistent dryness leading to itching and discomfort.4,5
- Thinner skin that's more vulnerable to damage, wrinkles, and delayed wound healing,5,6
- More penetration of irritants, leading to inflammation, skin diseases,6 and
- Visible skin aging, including wrinkles.⁷

Environmental factors, particularly ultraviolet (UV) radiation from sunlight, further accelerate skin aging by degrading structural proteins and promoting inflammation,8 also contributing to wrinkles and uneven pigmentation.9

Ceramide loss weakens the skin barrier and reduces moisture. Topical ceramides have become common skincare ingredients to help restore this loss. They don't dissolve and penetrate deeply into the skin and thus limit their effectiveness to temporary hydration.¹⁰

Daily oral rice-derived ceramides have been shown in clinical trials to strengthen the skin barrier and improve hydration, lowering water loss through the skin after about 8-12 weeks of use. 11-13

Oral Ceramides Transform Skin

Human and animal studies have shown that plantderived ceramides-or phytoceramides-can be taken orally and absorbed through the digestive system. 14,15 The most promising results have come from gluten-free, allergen-free ceramides extracted from non-genetically modified rice.16

Unlike topical applications, oral ceramides have been shown to boost the body's natural ceramide production in skin cells.

This approach restores the skin's moisture-retaining capabilities from within.





In a clinical study, 123 volunteers with dry skin consumed an oral rice extract rich in ceramides or a placebo daily for 12 weeks. Researchers measured how much water escaped through the skin barrier at multiple body sites, since less water loss indicates a stronger, healthier barrier.16

Compared to the **placebo**, those taking rice bran ceramides showed significant reductions in water loss in several areas of the body, including the face, arms, legs, and torso.

Improvements began in as little as four weeks and continued throughout the 12-week study period.¹⁶

Another clinical study examined patients with mild atopic dermatitis, or eczema. In this skin disease, the skin barrier is severely compromised and ceramide**deficient**, resulting in patches of itchy, dry skin.¹⁷

After four weeks of taking a daily rice extract containing ceramides:

- Water loss decreased more than 30%,
- Skin redness and flaking were reduced,
- Skin texture became smoother, and
- Itching and discomfort declined.

At the same time, the eczema symptoms of those in the placebo group worsened.

- Ceramides are essential lipids that maintain the skin's moisture barrier. Age-related decline leads to dryness, wrinkles, and accelerated skin aging.
- Rice-derived oral ceramides restore skin hydration from within by boosting natural ceramide production, which topical applications cannot do.
- Environmental pollution and UV radiation further accelerate skin aging and break down collagen and elastin.
- A **blend** of rosemary, olive leaf, lemon verbena, and Japanese pagoda tree extracts helps block pollutioninduced damage, reduces wrinkles, and improves the skin's moisture and smoothness.
- Vitamin C facilitates collagen synthesis, neutralizes harmful free radicals, and helps decrease dark spots.
- Together, these oral ingredients help hydrate, protect, and restore youthfullooking skin from the inside out.

Four Protective Herbs

Environmental pollutants and UV radiation damage our skin, degrading **collagen** and **elastin** (the skin's main structural proteins) while generating harmful free radicals.^{8,18}

These environmental factors trigger a protein called the **aryl hydrocarbon receptor (Ahr)**, which sets off genes involved in immunosuppression, inflammation, oxidative stress, and more, all of which **accelerate skin aging**. ¹⁸

Researchers identified <u>four</u> **herbal extracts** that, taken orally, protect against environmental skin damage:¹⁹

- Rosemary contains rosmarinic acid and other polyphenols that neutralize free radicals.
- Olive leaf provides oleuropein, a powerful antioxidant with anti-inflammatory properties.
- Lemon verbena leaf offers antioxidant protection and supports natural defense systems.
- Japanese pagoda tree (Sophora japonica) leaf contains compounds that preserve collagen and elastin.

A preclinical study showed that a **combination** of these extracts <u>inhibits</u> pollution-induced AhR activation, interrupting the process that initiates **skin-damaging** inflammation.²⁰

Herbal Extracts Reduce Wrinkles

In a clinical study, 100 women aged 35 to 65 took either **250 mg** of this <u>four</u>-extract blend or a placebo daily for 12 weeks.¹⁹

In *just 15 days*, the herbal blend smoothed and softened skin, reduced wrinkle depth, and improved skin elasticity and firmness.

After 12 weeks, compared to a placebo, those taking the plant extract blend had a:

- 10-fold greater reduction in wrinkle depth,
- 3-fold increase in skin moisture,
- 5-fold improvement in radiance (skin brightness), and
- 18-fold improvement in smoothness.

By the end of the study, **over 90%** of women showed significant improvement in all measures.



Vitamin C Supports Skin Health

Oral vitamin C provides additional support for skin structure and repair.21

Vitamin C supports enzymes that aid in collagen synthesis, helping maintain skin firmness.

Experimental and preclinical data have demonstrated that vitamin C:22

- boosts type I collagen, and
- lowers oxidative stress.

Vitamin C also inhibits tyrosinase, the enzyme responsible for melanin production. This helps fade existing dark spots and prevent new ones. 23,24

Vitamin C is an antioxidant naturally present in the skin. In a study of 33 volunteers, taking oral vitamin C for four weeks significantly increased the skin's ability to neutralize free radicals. A daily dose of 100 mg raised antioxidant activity by 22%, while **180 mg** increased it by **37%**, with no changes observed in the placebo group. Some participants achieved maximum improvement in just two weeks.

These results show that oral vitamin C quickly enhances the skin's antioxidant defense, with greater effects at higher doses.

A combination of oral ceramides, herbal extracts, and vitamin C may help maintain the skin's strength and radiance far better than topical treatments.

Summary

Skin aging results from declining ceramide and collagen production, pollution, and UV radiation. This combination weakens the moisture barrier and accelerates structural breakdown.

Rice-derived oral ceramides improve the skin's barrier function and boost hydration.

A blend of **four herbal extracts** protects against environmental damage while reducing wrinkles and improving skin quality.

Vitamin C provides support for collagen production and protective antioxidant activity.

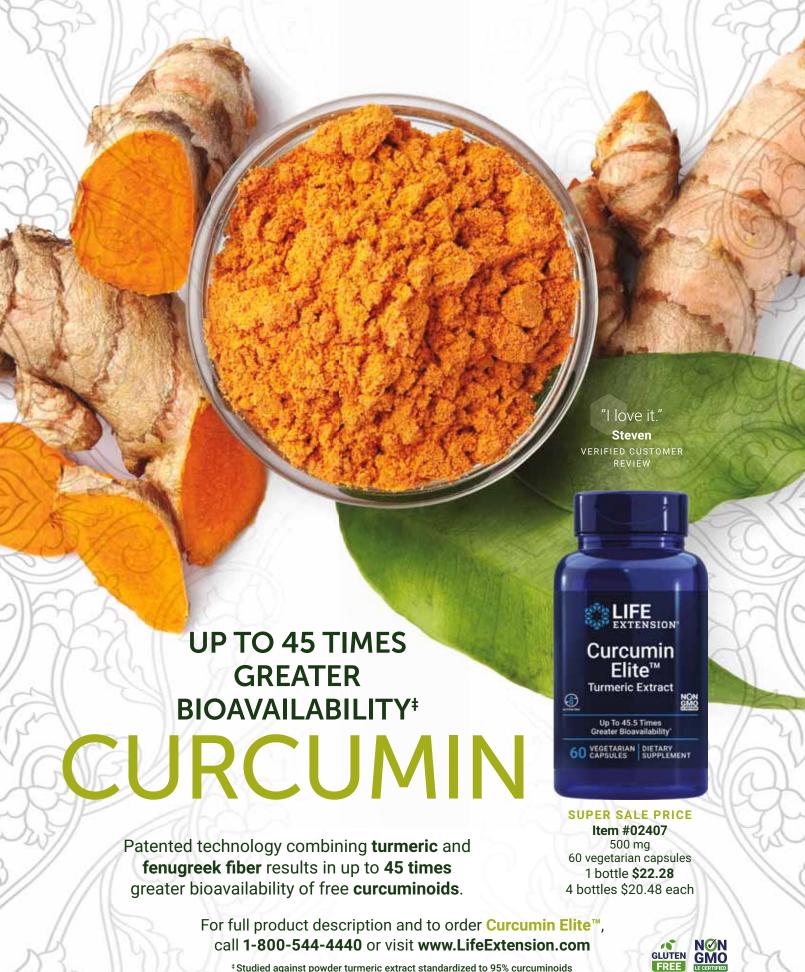
These oral compounds can help hydrate, protect, and rejuvenate skin.

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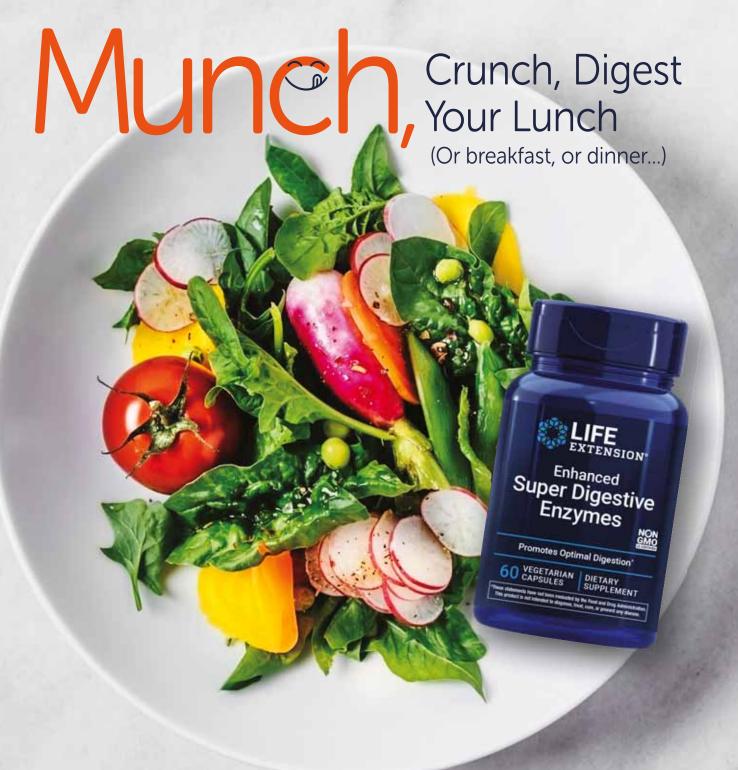
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Vitamin K2 Reduces Nocturnal Leg Cramps





Vitamin K2 has been studied for its potential to slow the progression of arterial plaque buildup. 1-3

A population study showed that over 7-10 years, high vitamin K2 intake was linked to a 57% lower risk of coronary heart disease death and moderate intake to a 27% lower risk, compared with low intake.4

New research shows that vitamin K2 benefits may extend to individuals suffering from **nocturnal leg cramps**. 5 a painful condition that affects one in three adults over 50.6

These sudden muscle spasms often occur during sleep, causing intense pain ranging from seconds to minutes.6

There are no safe and effective prescription medications for this condition. A study published in 2024 found that vitamin K2 can reduce the **frequency**, **duration**, and **severity** of these cramps, with significant improvements starting after just one week.5

Fast, Impressive **Improvements**

Most adults experience leg cramps at some point in life, and the risk increases with age.

Though a definitive cure remains elusive, it can be managed better by stretching, massage, adequate hydration, and specific supplements.

Researchers have reported that vitamin K2 may safely reduce the frequency, duration, and severity of muscle cramps in patients undergoing hemodialysis.7

To test its effects on nocturnal leg cramps, researchers conducted a multicenter clinical trial in 199 people, averaging 72 years old, who experienced roughly 2.6 weekly episodes.5

The participants were split up about evenly into groups that received 180 mcg of vitamin K2 (in the form of menaguinone-7 (MK-7)) or a placebo daily.



Eight weeks later, those taking vitamin K2 had a marked <u>reduction</u> in the frequency of leg cramps, dropping down to less than one cramping episode per week. This represents an impressive **64% reduction** in leg cramp frequency. Meanwhile, the **placebo** group had an *increase* in the frequency of cramping episodes.

And it wasn't just how often the cramps occurred that responded to vitamin K2 supplementation. Both the severity of the cramps and the duration of the episodes improved dramatically in the vitamin K2 group.

In fact, compared to the placebo group, participants taking vitamin K2 experienced more than double the *reduction* in cramp severity and nearly three-fold greater *reduction* in cramp duration.

The drop in cramping severity was 2.5 points on a 1-10 scale.

In just <u>one week</u> into the study, the difference between the groups became significant, meaning vitamin K2 worked rapidly.

Summary

Nocturnal leg cramps cause discomfort, distress, and sleep disruptions.

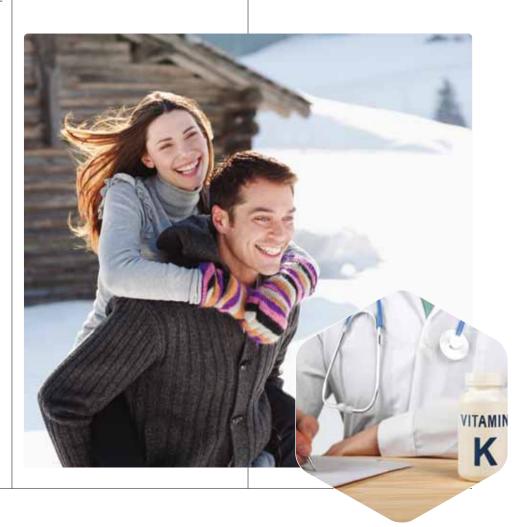
There are no safe and effective prescription medications for this condition; however, **vitamin K2** (in the form of **MK-7**) has been shown to safely reduce the frequency, severity, and duration of nocturnal leg cramps in older adults.

Note: Anyone taking warfarin should talk to their doctor before taking vitamin K2. ●

If you have any questions on the scientific content of this article, please call a **Life Extension** Wellness Specialist at 1-866-864-3027.

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Ginger

BY LAURIE MATHENA

Long before ginger earned a place on spice racks around the world, it was prized in Ayurvedic and Chinese medicine for easing everything from nausea and the common cold to digestive issues and arthritis.¹

More recently, modern research has proven what the ancient healers knew all along: Ginger has potent active compounds that truly make it deserving of "superfood" status.

Compounds such as gingerols (found mainly in fresh ginger) and zingerone (formed when ginger is dried) are responsible for ginger's anti-inflammatory, antioxidant, and digestive properties.²

Among its many uses, ginger is best studied as a remedy for nausea, vomiting, and motion sickness. Systematic reviews and meta-analyses support ginger's ability to safely reduce nausea^{5,6} and vomiting severity in various settings.⁶

For example, ginger has been found to reduce chemotherapy-induced nausea and vomiting in cancer patients and to alleviate pregnancy-related nausea and vomiting.²

It is also effective for post-operative nausea, with one review showing that taking **1 gram** of ginger per day was more effective at preventing post-operative nausea and vomiting than a placebo.³

In fact, in a clinical trial that compared ginger root to metoclopramide, a commonly prescribed anti-nausea medication, ginger's effects were comparable to metoclopramide for treating post-operative nausea.⁷ In other words, ginger performed similarly to the standard anti-nausea drug.

It is also beneficial for chronic indigestion. In a 12-week study, **480 mg/day** of steamed ginger extract significantly improved symptoms of functional dyspepsia—including pain, indigestion, reflux, constipation—and enhanced overall quality of life compared to placebo.⁹

One way ginger helps support digestive health is by increasing gastric motility.⁸ This means it speeds up how quickly food moves through the stomach into the intestines so that it doesn't linger and cause bloating or discomfort. It also modulates serotonin signaling in the gut, which helps calm the nerve signals that trigger nausea and the vomiting reflex.⁴

You can easily incorporate ginger into your diet by adding it to stir-fries, soups, or smoothies. For a soothing ginger tea, slice about a **one-inch piece** of ginger root, simmer it in water (the longer it simmers, the stronger the tea), and then strain through a fine mesh sieve. Add lemon slices and honey to taste.

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Strong bones and a healthy heart are two benefits of adding vitamin K to your routine.

This essential nutrient helps maintain the body's calcium balance and, in turn, supports everything from arterial health to bone density.

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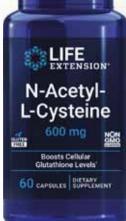
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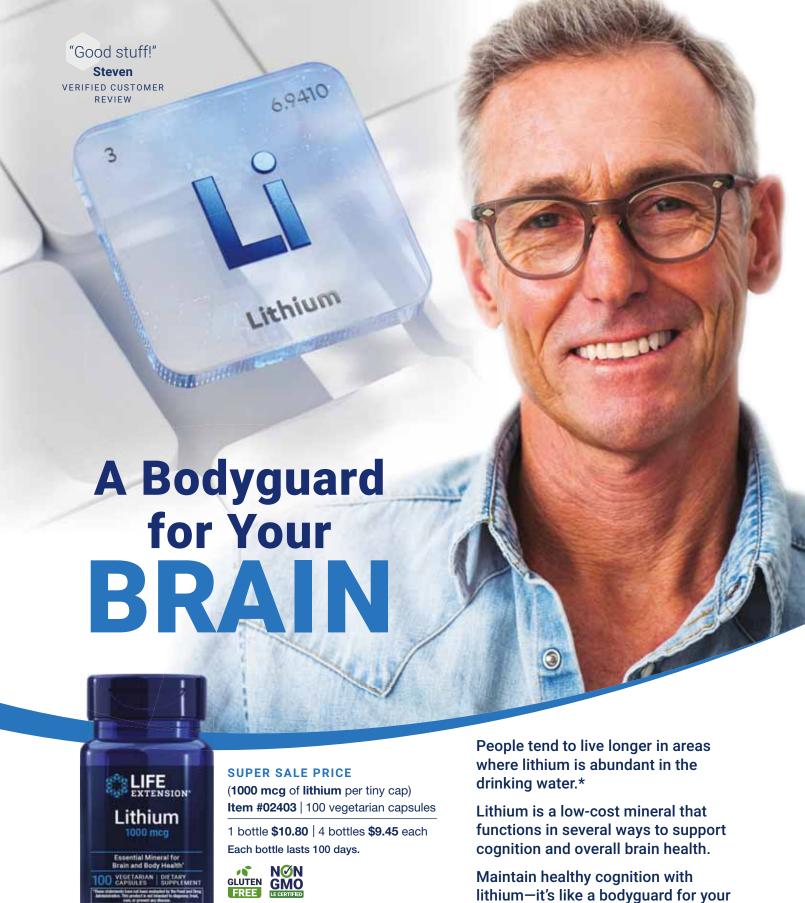
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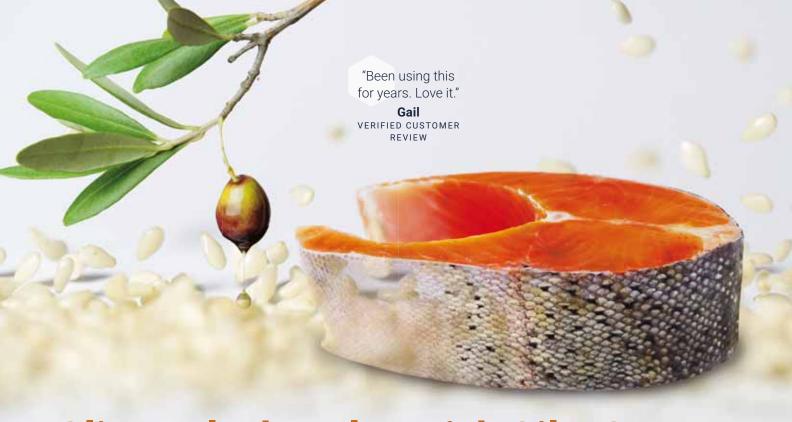




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26 QUERCETIN AND YOUR HEART

Research shows that **quercetin** supports **heart health** in multiple ways, including *improving* **inflammatory** markers.





36 PROBIOTICS TAILORED FOR WOMEN

In clinical trials, one probiotic *reduced* **vaginal yeast infections,** while another *promoted* **gut** and **immune health**.



In separate clinical trials, two plant nutrients *improved* **brain fog** symptoms by *reducing* **mental fatigue**, *boosting* **attention** levels, and *improving* **working memory**.





56 RADIANT SKIN FROM THE INSIDE OUT

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69 VITAMIN K2 REDUCES NOCTURNAL LEG CRAMPS

A clinical study found that **vitamin K2** *reduced* the frequency, duration, and severity of **nocturnal leg cramps**, starting after *one week*.