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October 2026

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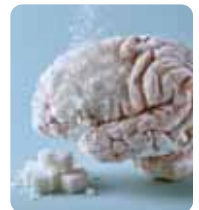
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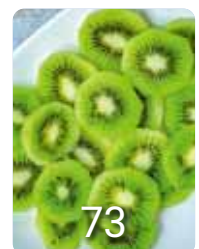
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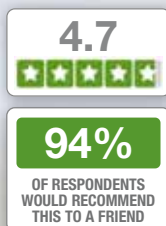
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When Lower Eye Pressure Is Better

BY WILLIAM FALOON



Few consequences of aging threaten independence as profoundly as **vision loss** and **blindness**.

Progressive deterioration of the retina, optic nerve, or lens can take away the ability to read, drive, recognize faces, and navigate the world independently.

Age-related eye diseases such as cataracts, glaucoma, and macular degeneration are remarkably common.

Cataracts impact many older adults but are surgically reversible.¹

Glaucoma, on the other hand, is a leading cause of irreversible blindness.² **Macular degeneration** is also a leading cause of irreversible central blindness, though it often spares peripheral (side) vision and does not obliterate all light perception.³

Some evidence suggests that lifestyle and dietary measures may reduce the risk or slow the progression of certain degenerative eye diseases, though high-quality proof of prevention is limited and varies by condition.³

When it comes to **glaucoma** or optic nerve degeneration, caused by *higher* than tolerable **intraocular pressure**, certain methods can reduce this pressure to low normal ranges and thus can protect against further nerve damage/visual loss.

The challenge today is that many people remain fixated on keeping intraocular pressure below **22 mmHg**.

Overlooked is that high “normal” eye pressure levels may be causing **optic nerve damage** in at-risk individuals. In these cases, established interventions can reduce intraocular pressure to lower “normal” levels and thus protect against this type of optic nerve deterioration.

Prevention of degenerative eye diseases deserves far more attention than it typically receives.⁴ This editorial describes practical methods to help protect our aging eyes.



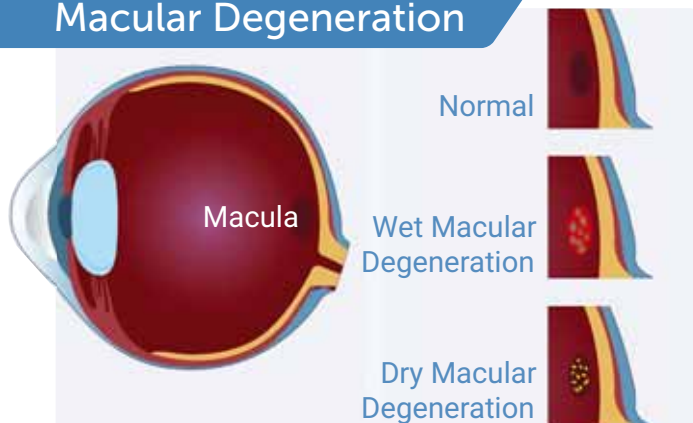
Major Eye Pressure Study in 1998

The **Collaborative Normal-Tension Glaucoma Study**, published in **1998**, was probably the most important turning point for the concept of lowering **eye pressure (intraocular pressure [IOP])** in patients at risk of glaucoma progression, even when pressure is already within the conventional normal range.⁹

The study enrolled people with **normal-tension glaucoma**, a form of glaucoma that occurs despite eye pressure that was traditionally considered normal at the time. Eligible eyes were randomized to either observation (no treatment) or a **30% reduction** from baseline in eye pressure using eye drops, laser treatment, or filtering surgery (trabeculectomy).

The results suggested that lowering eye pressure can slow the progression of **glaucoma** in these at-risk patients.

Macular Degeneration



Major Types of Age-Related Vision Loss

In **macular degeneration**, damage accumulates in and around the macula, the small central region of the retina responsible for our high-resolution, color, and central vision.^{5,6}

In **cataracts**, proteins in the lens become damaged and aggregate, reducing transparency.⁷

In **glaucoma**, optic nerve fibers progressively die, often in association with elevated intraocular pressure.⁸

The benefit became clear only after accounting for the confounding effects of treatment-related cataracts (some glaucoma surgeries like the trabeculectomy can increase the risk of cataracts).

In this study, if someone's untreated eye pressure was:

- 18 → then the target was around **12.6**
- 17 → **11.9**
- 16 → **11.2**
- 15 → **10.5 mmHg**

These values are provided solely as arithmetic examples of a 30% reduction and should not be interpreted as individualized treatment targets. Target eye pressure (IOP) is determined on a patient-by-patient basis according to disease severity, baseline pressure, risk factors, and rate of progression.

Following this trial, additional randomized clinical trial evidence found that intentionally lowering/targeting eye pressure **well below the traditional "normal" threshold** in selected patients resulted in slowed progression of glaucoma.^{10,11}

A Second Study Reinforced This Idea in 2000

The **Advanced Glaucoma Intervention Study** published an influential analysis in 2000 showing a strong relationship between sustained eye pressure (IOP) control and visual-field preservation in patients with advanced glaucoma.¹²

A particularly influential observation was that patients whose pressures remained below **18 mmHg** at every study visit had an **average eye pressure of approximately 12.3 mmHg** and, as a group, showed essentially no average deterioration in visual-field score over years of follow-up.

That helped popularize the idea that **12–14 mmHg could be an entirely appropriate therapeutic pressure**, especially in advanced glaucoma.

It's important to note that the study only found a link between the outcome and lower intraocular pressure; it did not directly test **12 mmHg** against **17 mmHg**. Therefore, the results do not show that everyone should target **12 mmHg**.

Current Eye Pressure Guidelines

Current guidelines for early-stage glaucoma or early optic nerve damage in primary open-angle glaucoma generally recommend lowering intraocular pressure by **20% to 30%** below baseline levels. If the baseline intraocular pressure was **18 mmHg**, the target would be to reduce it to around **14.4 to 12.6 mmHg** (or lower) to protect against further **optic nerve** damage.¹³ Treatment goals should be individualized based on factors such as age, risk profile, and the extent of optic nerve damage.¹⁴

Eye pressure can be lowered by prescription eye drops, laser surgery, or incisional surgery (alone or in combination). Each carries its own risks and benefits. The best course of action is decided by the physician and patient together based on individual needs.

Refer to the box on this page for treatment target examples.

Macular Degeneration

Macular degeneration is progressive damage to the central retina that reduces high-resolution central vision, most commonly as a consequence of aging.⁵

Pooled results from clinical trials have found that *higher* intakes of the carotenoids **lutein**, **zeaxanthin**, and **meso-zeaxanthin** can increase **macular pigment** optical density.¹⁶ This would be expected to reduce the risk of **macular degeneration**.

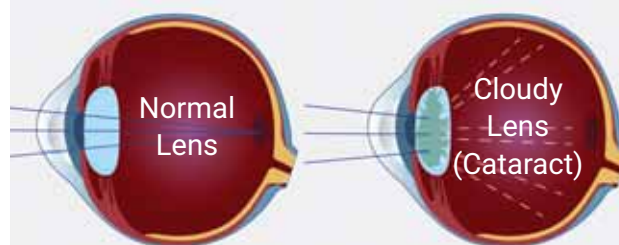
Some studies involving these carotenoids have also reported improvements in different eye measures such as distinguishing objects from their background (contrast sensitivity), seeing comfortably in bright light (glare tolerance), and recovering more quickly after exposure to a bright light (photostress recovery).^{17,18}

Cataracts

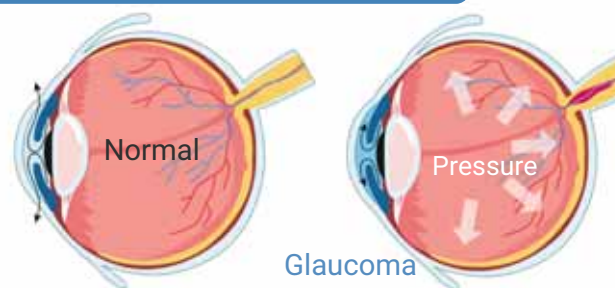
Certain nutrients may reduce the risk of **cataracts**.

From a preclinical standpoint, **carnosine** may help protect against protein crosslinking caused by **glycation**, a process in which sugar reacts with protein and which is thought to contribute significantly to cataract formation.¹⁹ As humans age, glycation reactions occur more frequently throughout the body and contribute to age-related tissue damage. This damage plays a role in advanced age-associated pathologies of the circulatory system, the eyes, the nervous system, and vital organs.²⁰

Cataract



Glaucoma



Eye Pressure Targets for Many Primary Open-Angle Glaucoma Patients

Untreated Baseline IOP (mmHg)	Target IOP with 20% Reduction (mmHg)	Target IOP with 30% Reduction (mmHg)
24	19.2	16.8
22	17.6	15.4
20	16.0	14.0
18	14.4	12.6
16	12.8	11.2

Annual **eye exams** have long included a test of eye pressure (**intraocular pressure [IOP]**). Levels below **22 mmHg** were historically considered safe and normal.¹⁵ More current guidelines suggest that lower eye pressure may better protect against optic nerve damage, but it is highly dependent on the individual. For instance, population-based studies have shown that many people with high eye pressure (IOP) do not have optic nerve damage related to glaucoma or any other kind of damage.¹³

Short-wavelength blue light contains more energy per photon than longer-wavelength visible light, and laboratory studies show that sufficiently intense blue light can generate oxidative damage in retinal cells.²³

However, this does not mean that blue light from ordinary smartphones and computer monitors is destroying the retina.

Current evidence has not clearly demonstrated that typical screen exposure causes retinal degeneration in humans. The blue light emitted by screens is also vastly less intense than sunlight.²⁴

Internal Protective Nutrients

Among the most intriguing nutritional factors involved in ocular health are three carotenoids: **lutein**, **zeaxanthin**, and **meso-zeaxanthin**.¹⁶

These pigments are unusual because the eye actively concentrates them in the macula, where they form what is known as **macular pigment**.¹⁶

Their location is important. Macular pigment sits directly in front of some of the retina's most metabolically active and visually important cells.

Lutein and **zeaxanthin** appear to benefit the eye in two principal ways.

First, they function as antioxidants, helping neutralize reactive oxygen species generated by metabolism and light exposure.¹⁶

Second, they absorb short-wavelength visible light, particularly portions of the **blue** spectrum, before that light reaches the underlying photoreceptors and retinal pigment epithelium.²¹

In effect, the retina constructs its own internal light filter using **carotenoids** obtained from the diet.²²

Sunlight remains the more significant environmental light exposure, particularly because ultraviolet (UVB) radiation can contribute to a form of cataracts,²⁵ which supports the value of routine UV-blocking eye protection.

The sensible position is therefore between two extremes. Blue light is not inherently harmless to the eyes, but neither is every digital screen a retinal hazard.

Preserving Vision Before It Is Lost

The strongest preventive measures to reduce the risk of eye diseases remain straightforward: do not smoke, control blood pressure and diabetes, exercise, eat a nutrient-rich diet, and protect the eyes from excessive ultraviolet exposure.^{26,27}

Foods rich in lutein and zeaxanthin include spinach, kale, collard greens, eggs, corn, and other yellow and green vegetables.²²

We devote enormous attention to preserving the heart, brain, muscles, and skin as we age. The retina deserves the same consideration.





Carotenoids will not eliminate age-related eye disease. But the eye itself offers an important clue: it selectively concentrates lutein, zeaxanthin, and meso-zeaxanthin exactly where decades of **light exposure** and **oxidative stress** threaten some of our most valuable neural tissue.

Nature has placed these pigments in the macula. Modern nutritional science is increasingly explaining why.

The article on **page 34** of this month's issue describes additional findings about preserving visual health.

For longer life,

William Faloon, Co-Founder
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In the News



Vitamin C Supplementation Improves Mental Vitality

Supplementation with vitamin C was associated with beneficial changes in the gut microbiome, reduced inflammation, and improvements in measures linked to mental vitality, according to a study published in *Brain, Behavior, and Immunity*.*

Forty healthy adults aged 20-39 with inadequate serum vitamin C levels ($< 50 \mu\text{M}$) received either **500 mg of vitamin C** or a **placebo** twice daily for 4 weeks.

The study examined whether vitamin C could improve mental vitality by altering the gut microbiome and reducing inflammation.

Vitamin C supplementation increased two beneficial gut bacteria (*Bacillaceae* and *Anaerotruncus*) and decreased a group of bacteria associated with inflammation (*Desulfovibrio*).

Participants with the largest reductions in *Desulfovibrio* had the following benefits:

- Better **attention** and **cognitive** performance,
- Greater increases in brain-derived neurotrophic factor (BDNF), a protein linked to **learning**, **memory**, and brain plasticity, and
- Stronger associations between levels of **L-DOPA** (a precursor to dopamine) and work engagement scores.

The vitamin C group also showed reduced inflammatory markers, with stronger immune changes in participants with greater decreases in *Desulfovibrio*.

Editor's note: The researchers concluded, "This study provides insights into vitamin C supplementation as a critical dietary intervention, as it may modulate mental health through its influence on the gut-brain-immune axis."

* *Brain Behav Immun.* 2025 Aug;128:179-191.

Effect of Risk Factors on Cardiovascular Disease and Death

A study from the Global Cardiovascular Risk Consortium analyzed data from more than two million individuals to assess how five cardiovascular risk factors influenced both lifetime cardiovascular disease risk and overall life expectancy.*

These risk factors included hypertension, elevated non-HDL cholesterol, abnormal body weight (underweight and overweight/obesity), diabetes, and smoking.

At age 50, the lifetime cardiovascular disease risk was **38%** for men with all five risk factors versus **21%** for those with none. Among women, the risk was **24%** versus **13%**, respectively.

Men who reached age 50 *without* these risk factors gained an estimated **10.6 additional years** free of **cardiovascular disease** and lived about **11.8 years longer** than those with all five risk factors. Women gained **13.3 years** free of cardiovascular disease and lived about **14.5 years** longer.

Not smoking was associated with about **5 additional years** free of **cardiovascular disease**, while avoiding diabetes added **4-6 years**. Controlling **hypertension** between ages 55-59 produced the greatest increase in years free of cardiovascular disease, while quitting smoking during the same time period yielded the largest survival benefit.

Editor's note: Because this was an observational study, the findings show associations rather than cause and effect. Other factors such as diet, physical activity, and socioeconomic conditions could influence outcomes.

* *N Engl J Med.* 2025 Sep 25;393(12):1246.





Engineered Stem Cells Reduce Signs of Aging in Monkeys

Researchers have genetically engineered a type of stem cell called **human mesenchymal progenitor cells** to be able to resist cellular senescence and stress, creating senescence-resistant cells that reversed signs of aging in monkeys.*

In a 44-week study, aged macaques (monkeys) received biweekly intravenous injections of the senescence-resistant human mesenchymal progenitor cells.

Compared to controls, treated animals showed reduced markers of cellular senescence, chronic inflammation, and tissue degeneration across multiple organs.

The treatment was also associated with improved measures of brain structure and function metrics, including increased cortical thickness, better white matter integrity, improved hippocampal connectivity, and improved performance on cognitive tests.

There were also improvements in markers of reproductive aging.

Many of these effects were linked in part to tiny messenger particles (called exosomes) released by the senescence-resistant cells, which carry signals to nearby cells and may help reduce markers of cellular aging.

No major adverse effects were reported during the study period.

Editor's note: The authors concluded: "This study provides initial evidence that genetically modified human mesenchymal progenitors can slow primate aging, highlighting the therapeutic potential of regenerative approaches in combating age-related health decline."

* *Cell*. 2025 Sep 4;188(18):5039-5061.e35.



Testing for Leaky Gut

A growing area of medical research is focusing on intestinal permeability¹—often referred to as “leaky gut”—a condition in which the intestinal barrier becomes less effective at regulating what passes from the digestive tract into the bloodstream.

Increased intestinal permeability has been associated with inflammatory bowel disease, irritable bowel syndrome, autoimmune disorders, and non-alcoholic fatty liver disease.² However, altered intestinal permeability can also occur in individuals without obvious digestive symptoms.³

In a healthy state, the gut lining allows water, electrolytes, and fully digested nutrients to pass into the bloodstream, while preventing larger molecules and potentially harmful substances from crossing the gut wall.⁴

When the barrier becomes compromised, undigested food, bacteria, toxins, and other inflammatory substances may enter circulation more easily.⁵

This altered permeability has been studied as a potential contributor to systemic inflammation, immune dysregulation, and chronic health concerns in susceptible individuals.⁴

Intestinal barrier function can be evaluated through specialized laboratory testing. A valuable gut test measures the body’s immune system response to key markers involved with intestinal barrier permeability, including *Candida albicans*, zonulin, occludin, and lipopolysaccharides (LPS).

Positive reactivity to one or more of these markers may suggest a compromised intestinal barrier and increased immune exposure to substances normally contained within the gut.

This finger stick blood spot test is available through **Life Extension** (Item #LC900004) by visiting www.LifeExtension.com/bloodgut or calling **1-800-544-4440**.

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BY HEATHER L. MAKAR

Better Health Starts In THE MOUTH

Brushing teeth isn't just about fighting cavities.

Poor **oral health** is associated with conditions such as **diabetes**, **heart disease**, and certain **cancers**.^{1,2}

While standard toothpastes are effective for cavity prevention and plaque control, researchers have developed a **nutrient-rich toothpaste** that combines innovative ingredients, including botanical extracts, to support gum and systemic health.

Recent studies help corroborate these findings.

Whole-Body Impact of Oral Health

Poor oral health is associated with systemic **inflammation** and may allow harmful bacteria to flourish, which is associated with worsening of conditions including:

- **Respiratory infections:** Oral bacteria in saliva can be aspirated into the lungs, causing **pneumonia**. Meta-analytic evidence shows that comprehensive oral care reduces hospital-acquired pneumonia by approximately **33%**, with some individual studies in elderly nursing home residents reporting even larger reductions.^{3,4}
- **Heart disease and stroke:** Oral bacteria have been detected in atherosclerotic plaque, a driver of heart disease, heart attacks, and strokes. People with periodontal disease show elevated C-reactive protein (CRP), an inflammatory marker associated with cardiovascular events.⁵⁻⁷
- **Diabetes:** In type 2 diabetes, gum disease is associated with a higher mortality risk. Periodontal treatment in clinical studies modestly but statistically significantly reduced HbA1c, a long-term measure of glucose levels.^{8,9}
- **Cancer:** Observational studies and meta-analyses link gum disease with increased risk of pancreatic, lung, esophageal, colorectal, and bladder cancers.^{10,11}
- **Cognitive decline:** Oral pathogens have been found in human brain tissue, and population studies show an association between periodontal disease and risk of Alzheimer's disease.^{12,13}



Maintaining good oral health—through regular brushing, professional dental care, and evidence-based oral hygiene practices—may help reduce the systemic inflammatory burden.

Green Tea's Multi-Action Protection

Catechins, compounds found in **green tea**, slow the growth of cavity-related bacteria, make it harder for them to stick to teeth, and reduce the acids these bacteria produce.^{14,15}

In a clinical trial, rinsing with **green tea** alongside regular brushing significantly reduced **plaque** and **gum bleeding** in four weeks, compared to brushing alone.¹⁶

In another clinical trial, a green tea-based rinse performed on par with **chlorhexidine**, the gold standard in fighting oral bacteria, for reducing plaque, tongue coating, and bad breath.¹⁷

EGCG (epigallocatechin gallate), the most abundant catechin in green tea, has been shown to inhibit the growth of **oral squamous cell carcinoma** (the most common oral cancer) and to trigger cancer cell death in preclinical studies. In mice, EGCG treatment significantly reduced oral tumor size.¹⁸

CoQ10's Healing Power

Coenzyme Q10 (CoQ10) may improve symptoms of periodontitis (advanced gum disease) when used as an adjunct to professional cleaning.¹⁹ In early clinical research in periodontitis patients, just **one week** of treatment with CoQ10 was associated with post-biopsy gum healing. The researchers remarked, "*the biopsy sites were difficult to locate.*"²⁰



A clinical trial in **periodontitis** patients found improvements in gingival redness, bleeding, and bacterial enzyme activity after topical CoQ10 application to periodontal pockets, compared to placebo.²¹

Several other clinical trials using subgingival CoQ10 gel application alongside **scaling and root planing** (a non-surgical deep cleaning procedure) reported significant improvements in bleeding, plaque, probing depth, and clinical attachment level compared to scaling and root planing alone.¹⁹

A **2025** systematic review of 10 randomized controlled trials found that, after twelve weeks, daily oral supplementation with **CoQ10** resulted in better **periodontal health**.²²

Lactoferrin and Xylitol Banish Bad Bacteria

The immune-supporting protein **lactoferrin** helps fight infection and tissue damage associated with periodontal disease.^{23,24}

Lactoferrin can bind to **periodontitis-causing bacteria**, including *Porphyromonas gingivalis*, inhibiting their growth and biofilm formation.²⁵

Xylitol, a sugar alcohol commonly used as a sweetener, actively fights harmful bacteria. In a systematic review of clinical studies, habitual xylitol consumption was found to decrease **salivary mutans streptococci**, the primary bacterial strain that drives tooth decay.²⁶

Long-term studies support xylitol's role in caries prevention. A 2024 meta-analysis of 15 studies (6,325 participants) found that sugar alcohols, particularly xylitol, had a significant effect in preventing dental caries compared to no treatment/placebo.²⁷

A randomized trial in high-caries-risk adults found that one year of low-dose xylitol chewing gum resulted in significantly lower caries increment compared to control.²⁸

Hydrogen Peroxide and Aloe Vera Clean and Heal

The antiseptic **hydrogen peroxide** inhibited plaque and reduced **gingivitis** in a clinical study.²⁹ Its bubbling action exposes oral bacteria that are difficult to reach with ordinary brushing and flossing, helping clean teeth and gums.



What You
Need
To Know

Building a Better Toothpaste

- **Poor oral health** correlates with higher risk of cardiovascular disease, impaired blood sugar control, cognitive decline, respiratory infections, and some cancers.
- A **toothpaste** containing **green tea, CoQ10, lactoferrin, xylitol, hydrogen peroxide**, and other ingredients may help reduce plaque and gum inflammation, help inhibit the growth of harmful oral bacteria, and reduce cavities.
- Together, these ingredients may help support better oral and whole-body health.



Good Oral Health May Lower Pancreatic Cancer Risk

Pancreatic cancer remains among the deadliest cancers, with approximately 49,000 deaths annually in the United States.⁴⁹

Poor oral health is associated with a modestly increased risk of pancreatic cancer, with meta-analyses showing approximately **1.38–1.74-fold** elevated risk among those with periodontal disease.^{50,51} As of 2015, when pancreatic cancer was detected having already spread beyond the pancreas (metastasis), the 5-year survival rate was **approximately 3%**.⁵²

A NYU research team led by Dr. Richard Hayes analyzed oral wash samples from **445 participants who later developed pancreatic cancer** and matched cancer-free controls. A microbial risk score was developed based on 27 oral bacterial and fungal species. A one-standard deviation increase in the microbial risk score was associated with up to a **3.44-fold** increased risk of **pancreatic cancer**.⁵³ An earlier observational study had also found an association between oral pathogens and pancreatic cancer.⁵⁴

Long used to treat burns, topically applied **aloe vera** may **soothe** and **heal** gum tissue.³⁰ A review found that aloe vera inhibits **tooth decay** and periodontal pathogens.³¹

Additional Protective Nutrients

Other ingredients applied topically also support oral health:

- **Folic acid** (also known as folate or vitamin B9): Topical folic acid mouthwash reduced gingival redness and bleeding and improved gum health in people with gum disease, though evidence remains limited.^{32,33}
- **Vitamin E**: Vitamin E may help support healing after dental procedures and protect periodontal tissues as an antioxidant.³²⁻³⁴
- **Clove leaf oil**: Has been used traditionally for dental pain relief and provides a numbing effect for those with sensitive gums. It exhibits antibacterial activity against oral pathogens and may reduce inflammation in gum tissues.^{35,36}

Together, all these ingredients may help support better oral and whole-body health.

Summary

Good oral health may help support overall health and is associated with lower risk of conditions including diabetes, heart disease, certain cancers, and cognitive decline.

A **toothpaste** containing green tea extract, CoQ10, lactoferrin, xylitol, hydrogen peroxide, aloe vera, and other nutrients may help improve oral health by:

- Fighting harmful bacteria,
- Reducing inflammation, and
- Supporting tissue healing.

These nutrients may help maintain an oral environment that protects your smile and overall health. ■

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

What's Really in Your Toothpaste?

Not all toothpastes are created equal. Many emphasize foam, flavor, and heavy polishing, which may contribute to oral irritation and enamel wear, depending on the formulation.

Use this list to spot less-helpful additives and choose nutrient-forward options that support a healthier oral environment and better whole-body health.

Common Commercial Ingredients:

- **Sodium lauryl sulfate (SLS):** A foaming agent that can cause irritation, peeling of the mouth lining, and inflammation of the oral tissues.³⁷
- **Abrasive polishing agents (hydrated silica, calcium carbonate):** Help remove stains but can increase surface wear on enamel and dentin depending on the formulation and concentration used.^{38,39}
- **Titanium dioxide:** A whitening agent that the European Food Safety Authority concluded can no longer be considered safe as a food additive.⁴⁰
- **Microplastics:** Plastic particles reported in some toothpaste formulations.⁴¹ Research suggests that microplastics from environmental exposure may cross oral and gut barriers and accumulate in distant organs.⁴²

Nutrient-Rich Alternatives:

- **Xylitol:** A sugar alcohol that reduces cavity-causing bacteria.^{43,44}
- **Green tea extract:** Inhibits bacterial adhesion to teeth, reducing plaque.^{14,45}
- **CoQ10:** May improve periodontal status in clinical trials.^{19,22}
- **Lactoferrin:** Stops growth of periodontal pathogens.^{23,24}
- **Hydrogen peroxide:** Antiseptic action reduces plaque and gingivitis.⁴⁶
- **Aloe vera:** May help prevent tooth decay and promotes wound healing for oral tissues.^{47,48}

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* J Agric Food Chem. 2014 Jan 15;62(2):443-53.

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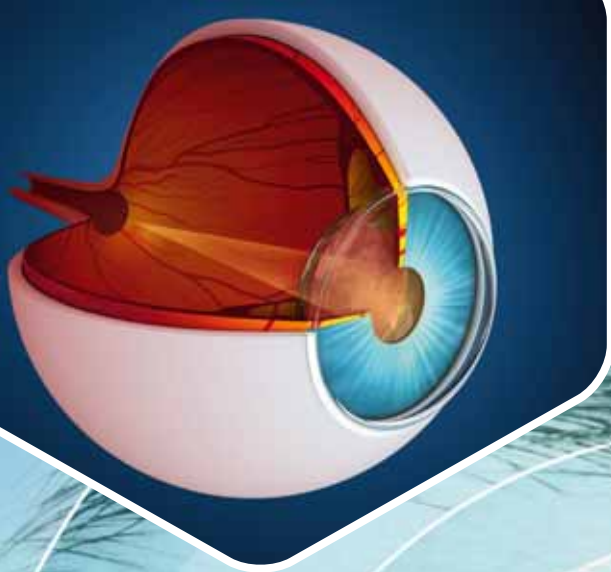
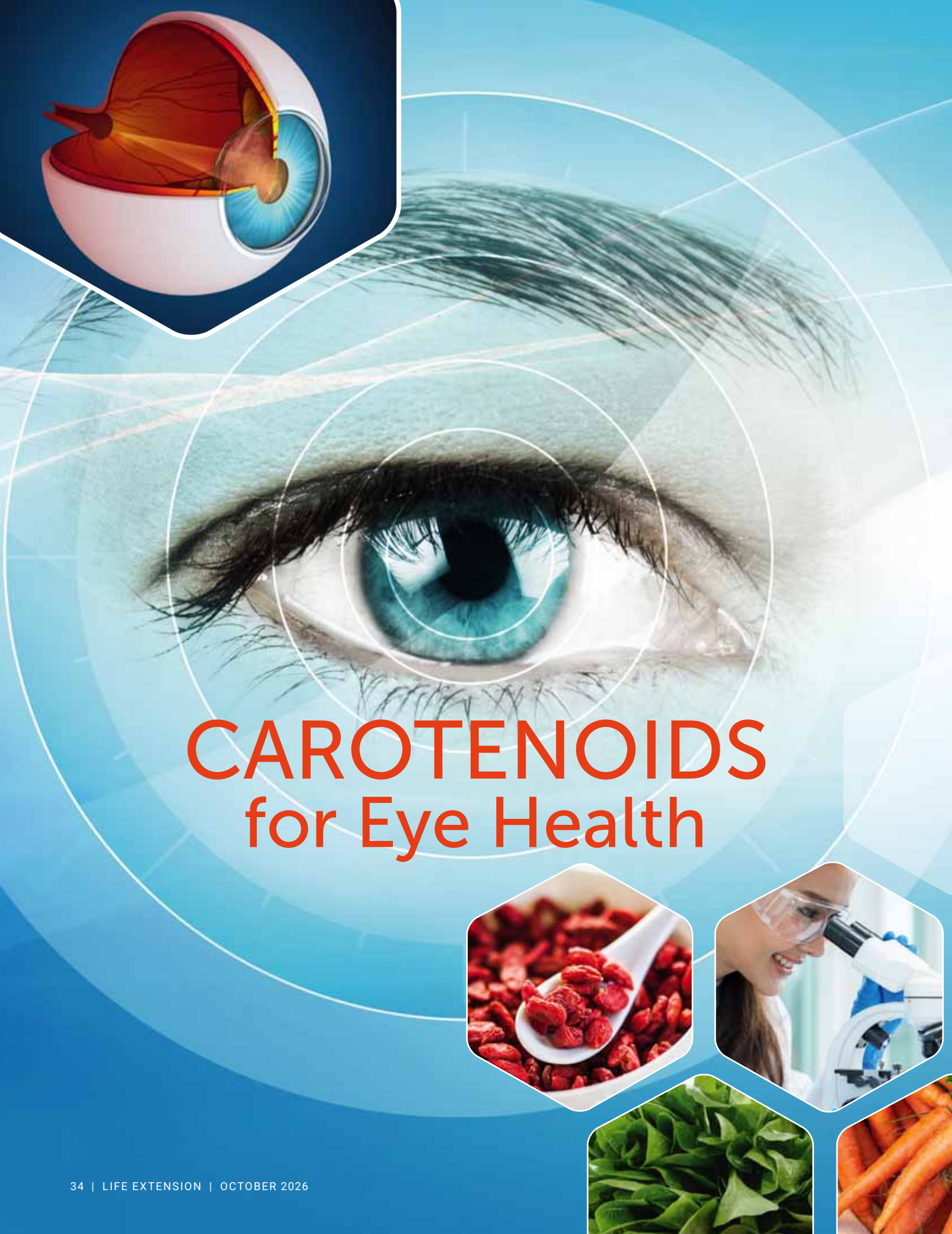
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CAROTENOIDS for Eye Health



BY MARSHA MCCULLOCH, MS, RD

Sunlight contains blue light that is the same light that is emitted from computer/phone screens and LED lighting.¹

Excessive exposure to blue light can induce **oxidative changes** to our eye's retinal cells,²⁻⁴ particularly the macula.²

Blue light-induced retinal dysfunction may include the loss of **photoreceptors** and **retinal pigment epithelium** cells.^{1,2,4} These components convert light into the neural signals necessary for vision.^{2,5}

Degeneration and loss of retinal pigment epithelium cells underlie **age-related macular degeneration**, a leading cause of irreversible vision loss and blindness.⁶

Scientists have identified two carotenoid pigments, **lutein** and **zeaxanthin**, that accumulate in the human retina and serve as a **filter** against blue light.^{7,8}

In a clinical trial, oral intake of **macular carotenoids** boosted their levels in the retina, and improved recovery time after bright light exposure.⁹

Many readers of this magazine have been taking combination carotenoid supplements that include lutein and zeaxanthin for decades.

Researchers have now combined these ingredients in a flavored chew for convenience.

Optimizing the intake of these carotenoids may help support aspects of retinal health.^{9,10}



A Macular Filter

The human body cannot make lutein and zeaxanthin.⁸

Lutein and **zeaxanthin** are primarily found in dark leafy greens.¹¹ **Lutein** is also present in modest amounts in some orange- and yellow-colored vegetables, yellow corn products, and egg yolks, while goji berries are a particularly rich source of **zeaxanthin**.⁸

Taken orally, lutein and zeaxanthin accumulate in the **macula** (the part of the retina where the highest density of photoreceptors is located).

These carotenoid pigments have been reported to absorb **40-90% of blue light**, reducing oxidative stress in the retina.⁷

Macular pigment optical density measures the level of carotenoids in the macula and is an important indicator linked to diseases like age-related **macular degeneration**.¹²

Macular pigment filters blue light in a dose-dependent manner. *Higher* macular pigment optical density is associated with greater blue light absorption and may help reduce oxidative stress in the retina.^{13,14}

In a prospective study spanning over 20 years and including more than **100,000** adults aged 50 and older, those in the *highest* quintile of plasma lutein and zeaxanthin dietary intake had an approximately **41% lower risk of advanced macular degeneration** compared to those in the lowest quintile.¹⁰



Better Vision

Lutein and zeaxanthin may also help **improve vision**, including how well the eyes handle challenging lighting conditions.

In a clinical study, healthy young adults took **10 mg** of **lutein** and **2 mg** of **zeaxanthin** or a placebo daily for 12 months.⁹

Baseline results confirmed that *higher macular pigment optical density* was strongly associated with better visual performance, including **glare tolerance** (the ability to see well when exposed to intense light) and the time required to recover from bright light exposure also known as photostress.

After one year, the placebo group had no significant changes. The treatment group showed improvements, including:

- better **glare tolerance**,
- faster visual recovery after bright light exposure, and a
- **substantial rise in macular pigment**.

A meta-analysis of **22** human studies also showed a clear link between higher macular pigment optical density and improved visual function, including reduced **glare disability**, faster **photostress recovery**, and better **contrast sensitivity** (the ability to distinguish luminance differences between an object and its background).¹⁵





What You
Need
To Know

Protective Mechanisms

Lutein and **zeaxanthin** support retinal defense through multiple mechanisms. Preclinical research shows that they work by:

- Actively decreasing cellular **senescence** (when cells become old and dysfunctional) and protecting **DNA** from damage caused by blue light exposure,¹⁶
- Activating the **Nrf2 pathway**, a cellular mechanism that defends against oxidative stress within the retina, and stimulating the expression of specific **genes** responsible for antioxidant defenses and DNA protection,¹⁷⁻¹⁹ and
- Decreasing the secretion of **pro-inflammatory cytokines**¹⁶ and inhibiting **abnormal blood vessel growth**²⁰ associated with age-related macular degeneration.

Together, these actions may help support retinal health.

Oral formulations, including softgel caps and chewables, make it easy for adults of all ages to maintain carotenoid intake to support eye health.

Blue Light Protection for the Eyes

- Blue light from the sun, digital screens, and LED lighting can strain the eyes and contribute to glare sensitivity and difficulty in returning to normal vision after bright light exposure.
- Lutein and zeaxanthin are carotenoids that function as blue light filters, concentrating in the retina where they have been reported to filter blue light.
- In a clinical study, daily oral intake of lutein and zeaxanthin improved glare tolerance and visual recovery after bright light exposure.
- Taking these carotenoids also increased macular pigment optical density, which has been associated with eye health outcomes, including reduced age-related macular degeneration.

Summary

Exposure to **blue light** from the sun, digital screens, and LED lighting may contribute to visual strain and glare sensitivity.

Taken orally, the carotenoids **lutein** and **zeaxanthin** accumulate in the retina, where they help filter blue light and may help reduce oxidative damage.

Higher retinal levels of these carotenoids are associated with better **visual performance** and are being studied for their potential role in protection against **macular degeneration**.

In a **clinical** study, daily lutein and zeaxanthin supplementation **improved** measures of visual performance under challenging lighting conditions. ■

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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call **1-800-544-4440** or visit **www.LifeExtension.com**

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How Menopause and Aging Can Lower Vitamin D Status

Several physiological changes can reduce vitamin D levels in older women.

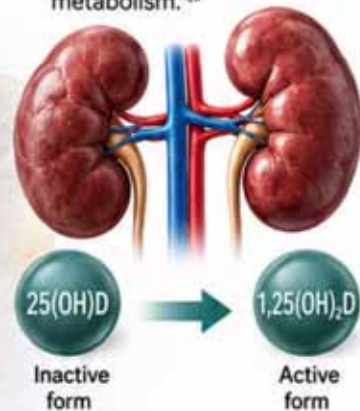
1 Reduced skin synthesis

Aging skin produces vitamin D less efficiently. A 70-year-old's skin synthesizes about 75% less vitamin D than a 20-year-old exposed to the same amount of sunlight.^{1,2}



2 Less activation

With age, the kidneys become less efficient at converting vitamin D to its active form, primarily due to declining renal function.³ Lower estrogen levels after menopause may further impair vitamin D metabolism.^{4,5}



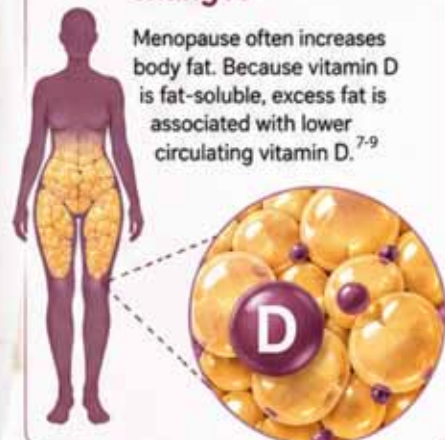
3 Greater intake needed

Due to reduced skin synthesis, lower renal activation, and often limited sun exposure, older adults typically require higher oral vitamin D intake to maintain adequate levels.^{3,6}



4 Body composition changes

Menopause often increases body fat. Because vitamin D is fat-soluble, excess fat is associated with lower circulating vitamin D.⁷⁻⁹





Importance of **VITAMIN D** During Menopause

BY HEATHER MAKAR

Menopause affects more than hormone balance.

During perimenopause and menopause, multiple physiological changes—including declining estrogen, increased adiposity, and age-related reductions in vitamin D synthesis^{5,10}—may lower **vitamin D** levels.

This happens at a time when this nutrient is important for supporting bone density,^{11,12} immune function,¹³ and healthy aging.^{5,14}

A startling **22% to 40%** of middle-aged and older women have been found to be vitamin D deficient,⁸ with postmenopausal women showing especially high rates of deficiency.^{11,15}

Low vitamin D may contribute to several health concerns.

The effects of lower vitamin D status are linked to reduced bone mass and increased fracture risk,^{11,12} immune dysfunction, and inflammation,^{13,16} and metabolic syndrome.^{17,18}

Low vitamin D has been associated with conditions such as sleep disturbances, depression, and joint pain that can make menopause difficult.¹¹

Taking **oral vitamin D** raises body levels and may support certain health outcomes, particularly in women with vitamin D deficiency.

How Menopause Lowers Vitamin D

According to a 2021 recommendation from the United States Preventive Services Task Force, **20 ng/mL** is the minimum acceptable vitamin D serum level for most adults.^{19,20} For *optimal* vitamin D status, **Life Extension®** recommends maintaining serum levels between **50** and **80 ng/mL**.

In a 2022 analysis of data from the National Health and Nutrition Examination Survey (NHANES) dataset from 2001 to 2018, that included nearly 72,000 participants, vitamin D levels were less than **20 ng/mL** in nearly a **quarter** of the population. Severe or moderate deficiency was more prevalent among **women**.²¹

In another study of **8,532** European postmenopausal women with osteoporosis or osteopenia, nearly **80%** had vitamin D serum levels below **32 ng/mL**, and about **32%** had serum levels below **20 ng/mL**, confirming that low vitamin D is common in older women at risk of fractures.²²

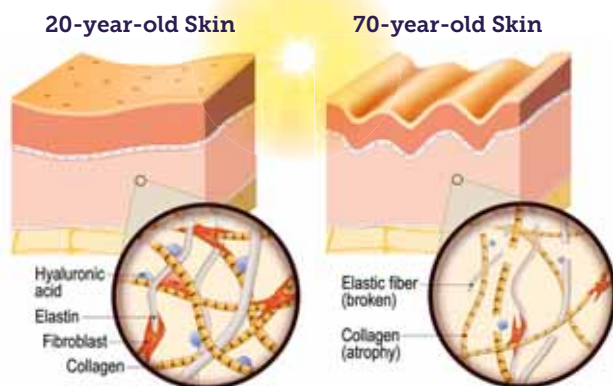
Menopause and **aging** can lower vitamin D status in several different ways, including:

- **Reduced skin synthesis.**

Aging skin produces vitamin D less efficiently. A 70-year-old's skin synthesizes about **75% less** vitamin D than a 20-year-old exposed to the same amount of sunlight.^{1,2}

Reduced Skin Synthesis Contributes to Lower Vitamin D Status

A 70-year-old's skin synthesizes about **75% less** vitamin D than a 20-year-old exposed to the same amount of sunlight.^{1,2}



- **Less activation.**

With age, the kidneys become less efficient at converting vitamin D to its active form, primarily due to declining renal function.³ Lower **estrogen** levels after menopause may further impair vitamin D metabolism.^{4,5}

- **Greater intake needed.**

Due to reduced skin synthesis, lower renal activation, and often limited sun exposure, older adults typically require higher oral vitamin D intake to maintain adequate levels.^{3,6}

- **Body composition changes.**

Menopause often increases body fat. Because vitamin D is fat-soluble, excess fat is associated with lower circulating vitamin D.⁷⁻⁹

Vitamin D and Menopausal Symptoms

Lower vitamin D levels may be associated with more severe menopausal symptoms.

A **2025** observational study followed 100 menopausal women for two years, comparing those with **vitamin D deficiency** (less than **20 ng/mL**) to those with levels higher than **30 ng/mL**.²³

Compared with women whose vitamin D levels exceeded **30 ng/mL**, women with vitamin D deficiency had:²³

- Lower **estrogen**,
- More severe **menopausal symptoms**,
- Lower bone mineral density, raising **fracture** risk, and
- Lower **quality of life**.

The most common menopausal symptoms—**hot flashes** and **night sweats**—affect up to **80%** of menopausal women.^{24,25} Observational research suggests that lower vitamin D levels are associated with greater symptom severity.^{2,26,27} One observational study reported a nearly **6% increase** in the risk of hot flashes for every **1 ng/mL decrease** in serum vitamin D.²⁷

Other menopause symptoms include **vaginal dryness**, discomfort with intercourse, and urinary problems.²⁴ Some studies suggest that locally administered vaginal vitamin D may improve markers of vaginal health such as improving vaginal maturation and may reduce vaginal atrophy, a condition that leads to itching, burning, and pain.^{28,29}



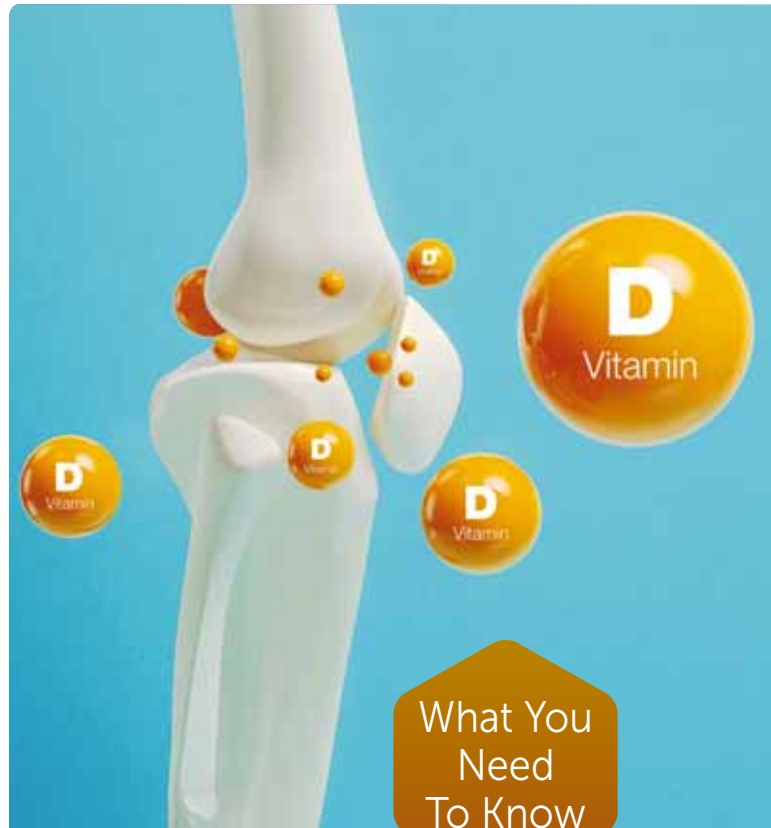
Menopause is also associated with potentially harmful shifts in **inflammatory signaling** and **immune regulation**.³⁰⁻³² Vitamin D supports healthy immune responses and inflammatory balance; therefore, low vitamin D status may contribute to a more **proinflammatory** state in some women.^{26,33,34}

Vitamin D After Menopause

The health implications of low vitamin D levels are very important after menopause, as well. A 2024 review found that low vitamin D levels in postmenopausal women are associated with **musculoskeletal frailty** and a higher prevalence of **cardiovascular** risk factors.¹⁵

In other studies, vitamin D status is linked with:

- **Bone health.** In a population study of postmenopausal women, each **10 ng/mL** reduction in vitamin D levels was associated with about a **33% higher** risk of hip fracture.³⁵ A meta-analysis of clinical trials found that higher-dose oral vitamin D (**greater than 482 IU/day**, often with calcium) led to a roughly **18%** lower hip fracture risk.³⁶
- **Metabolic health.** Vitamin D deficiency is associated with higher rates of **metabolic syndrome**, a group of conditions that raise risk for heart disease, stroke, and type 2 diabetes.¹⁰ In a clinical trial, postmenopausal women who took **1,000 IU** of **vitamin D3** daily for nine months had significant reductions in **triglycerides**, **insulin resistance**, and overall risk for **metabolic syndrome**.³⁷
- **Glucose metabolism.** When baseline vitamin D was low, supplementation *improved* **markers of insulin resistance** and lowered risk of **high blood sugar**.^{37,38}
- **Muscle function.** Low vitamin D status is associated with reduced physical performance in older adults. In a clinical trial of vitamin D-deficient postmenopausal women, taking just **1,000 IU** of **vitamin D3** daily for nine months significantly improved lower limb **muscle strength** and protected against the loss of lean muscle mass.³⁹



Vitamin D's Role During and After Menopause

- **Lower vitamin D levels** have been associated with more severe menopausal symptoms in observational studies.
- Oral vitamin D may help reduce the severity of some menopause symptoms and support bone and muscle health, metabolic and immune health, and glucose metabolism during and after menopause.
- **Blood testing** can determine vitamin D levels and indicate how much daily vitamin D is needed to ensure healthy status.

The Right Amount

Vitamin D needs aren't the same for everyone.

Women who are overweight or obese, for example, may need vitamin D intakes that are about two to three times *higher* to reach the same blood levels as normal-weight women.^{8,40,41}

Optimal vitamin D levels are critical for overall healthy aging. Daily oral doses of **5,000–8,000 IU** of vitamin D3 may help maintain *optimal* blood levels. The **25-hydroxy vitamin D** blood test is used to assess and adjust dose. **Life Extension** considers **50–80 ng/mL** of serum **25-hydroxy vitamin D** to be an *optimal* level.

Maintaining adequate vitamin D levels may help support bone, muscle, metabolic, and immune health during and after menopause and may help reduce severity of some menopausal symptoms.

Higher supplemental intakes may be appropriate for some individuals, particularly those with documented deficiency, obesity, malabsorption syndromes, or limited sun exposure, but should ideally be guided by blood testing and healthcare supervision.



Summary

Lower vitamin D levels have been associated with more severe menopausal symptoms.

Taking oral vitamin D to achieve optimal blood levels may lessen the severity of some menopausal symptoms and help support bone density, muscle strength, metabolic health, and immune function during and after menopause. ■

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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Understanding Vitamin D Units and Testing

People can easily be confused by the different measurements used to express vitamin D **levels in the body** and vitamin D **amounts in supplements**.

Vitamin D **supplement** doses are measured in **international units (IU)** or **micrograms (mcg)**. For instance, 125 micrograms of vitamin D3 equates to 5,000 IU (international units).

Vitamin D **blood levels** in the body are measured in **nanograms per milliliter (ng/mL)** of 25-hydroxy vitamin D.





Vitamin D May Help Ease Menopausal Symptoms

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Fuller, Stronger HAIR



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Contains wheat.

Hair Growth for Women is an oral formula with two scientifically studied **plant extracts** that:^{1,2}

- Help **maintain** existing hair,
- Support normal **hair growth** cycle,
- Support healthy **scalp oil** levels,
- Support **hair density** and **volume** for fuller hair, and
- 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.

For full product description and to order **Hair Growth for Women**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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BioActive Complete B-Complex provides *enzymatically active forms* of meaningful potencies of each B vitamin.

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Caution: Temporary flushing, itching, rash, or gastric disturbances may occur.

* Br J Pharmacol. 2004 Mar;141(5):825-30.

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Calcium Supplement
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combines skeletal-
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120 capsules
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NEXT GEN CoQ10

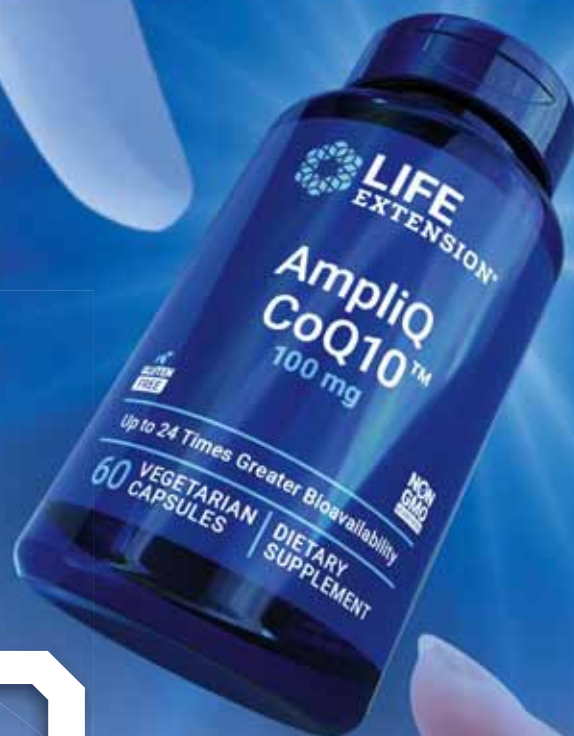
CoQ10 is essential for **cellular energy** in the **heart, liver, kidneys, and muscles**.^{1,2}

Standard **CoQ10** is difficult for the body to *absorb* due to its limited bioavailability.³

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In a **clinical** study, this new form of **CoQ10** was found to be up to **24-fold more bioavailable** compared to standard CoQ10 ubiquinone—and **three times more bioavailable** than ubiquinol.⁴

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For full product description and to order **AmpliQ CoQ10™**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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this for years.
Love it."

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EPA/DHA**
in four softgels
Plus Standardized
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Sesame Lignans

Fish oil is a popular supplement people use to boost **omega-3** levels in the **heart, brain, eyes,** and other tissues.

Super Omega-3 provides healthy components of the **Mediterranean diet** including highly purified **fish oil, sesame lignans,** and standardized **olive extract.**



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EPA/DHA**
in four softgels
with Standardized
Olive Extract,
Sesame Lignans, Krill
and Astaxanthin



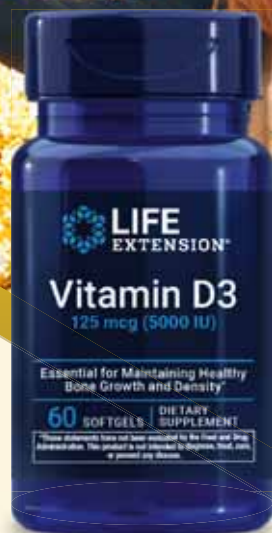
For full product description and to order **SUPER OMEGA-3** and **SUPER OMEGA-3 PLUS**, call 1-800-544-4440 or visit www.LifeExtension.com

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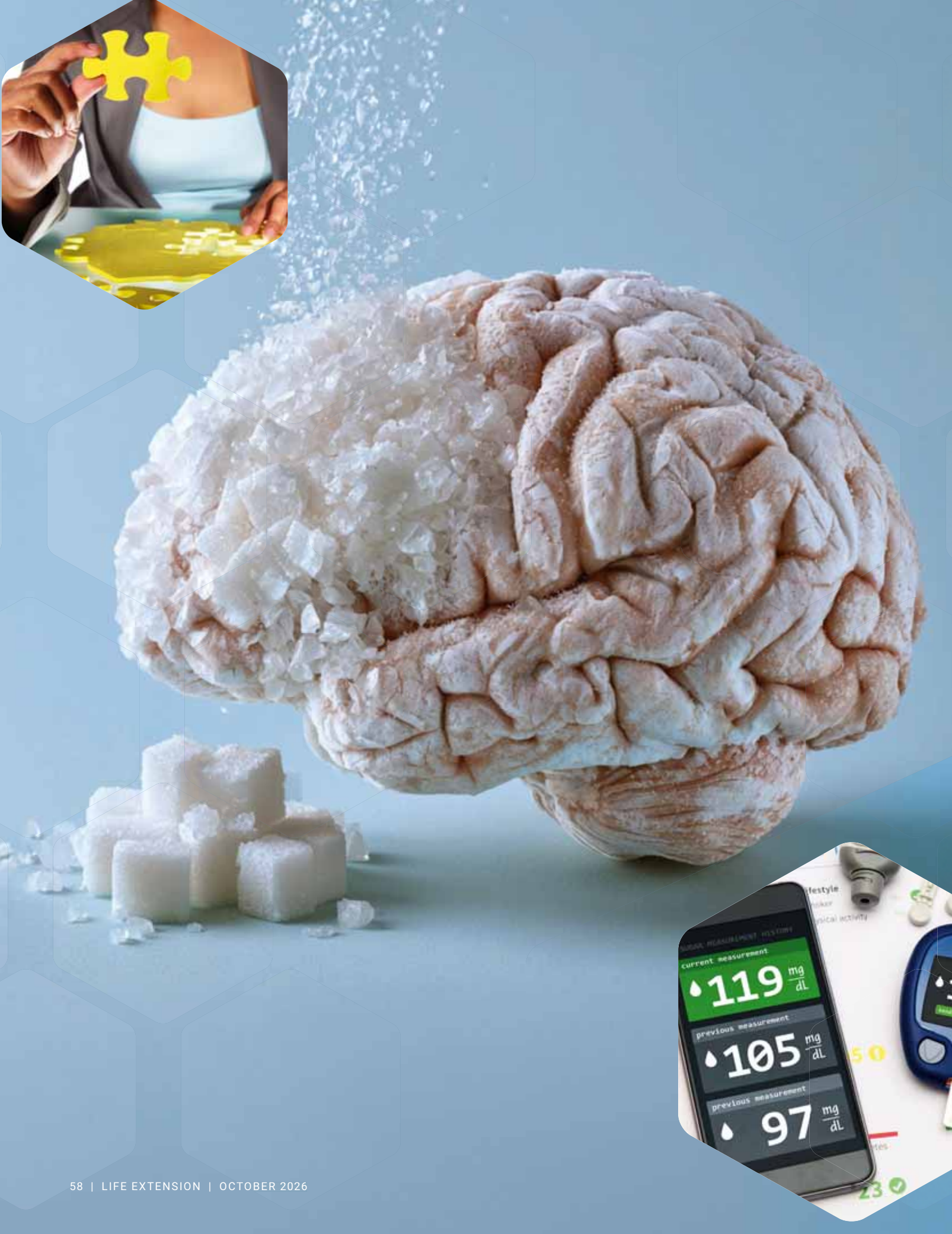
4 bottles \$6.50 each



For full product description and to order **Vitamin D3**,
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Caution: Individuals consuming more than 50 mcg (2000 IU)/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxy vitamin D measurement. Do not exceed 10000 IU per day unless recommended by your doctor. Vitamin D supplementation is not recommended for individuals with high blood calcium levels.

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.





Protect Your Brain from SUGAR DAMAGE

BY MARSHA MCCULLOCH, MS, RD

Most people know **high blood sugar** is bad for the body.

Few understand the damage it inflicts on the **brain**.

Insulin resistance and impaired glucose metabolism in the **brain** are so harmful that it is sometimes called “**type 3 diabetes**.” This is linked to **Alzheimer’s** and other dementias.¹

Here’s the good news: **Benfotiamine** is a more bioavailable form of **vitamin B1** with greater tissue penetration. It has demonstrated **neuroprotective** properties.²

Benfotiamine also helps inhibit formation of harmful **Advanced Glycation End Products (AGEs)** in the brain and throughout the body.^{3,4}

A study in individuals with **type 2 diabetes** showed that **benfotiamine** reduces **AGEs** levels and **oxidative stress** markers.⁴

In a year-long randomized, placebo-controlled **clinical trial** of people with mild cognitive impairment or early-stage Alzheimer’s, **benfotiamine** reduced worsening on a clinical **dementia** rating scale by **77%**.³



The Brain-Blood Sugar Link

The brain depends on **glucose** for energy, but when blood sugar is chronically elevated, the brain becomes less efficient at using that fuel.⁵

A systematic review of **213 studies** found that **insulin resistance** plays a major role in the development and progression of **dementia**.⁶

Analyses of brain tissue from people with Alzheimer's consistently reveal reduced insulin signaling,⁷ and people with **type 2 diabetes** (a condition defined by insulin resistance) have a **60% higher** risk of developing **dementia** than those without diabetes.⁸

When the brain is under heavy demand, insulin enhances glucose utilization during periods of high cognitive demand.^{9,10} In Alzheimer's, PET imaging has demonstrated regional declines in cerebral glucose utilization, with the hippocampus among the greatest reductions.¹¹ Diminished cerebral glucose metabolism is region-specific and progressive. Longitudinal PET studies have shown **cortical glucose** metabolism declining by approximately **20%** over two years in Alzheimer's patients.¹²

The **hippocampus**, the brain's memory center, is especially vulnerable to these energy shortages.¹

Impaired insulin signaling also promotes the buildup of **amyloid-beta** and the formation of **tau tangles**, two hallmarks of Alzheimer's.^{6,13,14}

High blood sugar adds another layer of stress by increasing the formation of **Advanced Glycation End Products**.¹⁵ These toxic compounds, formed when sugars bind to proteins or fats, are linked to cognitive decline.¹⁶

An Essential Brain Nutrient

Thiamine (vitamin B1) is vital for converting glucose into energy in the brain and supporting antioxidant defenses.^{2,17}

In a retrospective study of 77 people with Alzheimer's seen at a memory clinic, subjects with the most severe thiamine deficiency consistently scored **lower** on the Mini-Mental State Examination, an assessment of cognitive status, than those with **higher** thiamine levels.¹⁸

Restoring thiamine in the brain is **not** as simple as increasing dietary intake.¹⁹

Thiamine is water-soluble and cleared quickly, limiting its beneficial bioavailability.^{2,20}

High blood glucose can also impair the transporters that move thiamine into cells²¹⁻²³ and blood-brain

barrier^{24,25} making it harder for the body to maintain and replenish adequate thiamine levels.²¹⁻²³

Benfotiamine, a fat-soluble form of thiamine, is more **bioavailable** than standard water-soluble thiamine. It can raise blood thiamine concentrations to levels at least **five times higher** than those achieved with standard thiamine.²

Animal studies have confirmed that oral benfotiamine increases active thiamine (thiamine diphosphate) in memory-critical brain regions, including the hippocampus.²⁶

Encouraging Results in Animal Studies

Scientists first linked benfotiamine to brain benefits in 2010, when an eight-week study in an Alzheimer's mouse model showed that it **improved** memory and **reduced** amyloid plaques and abnormal tau.²⁷

Since then, rodent models of Alzheimer's have produced similarly strong findings:

In a seven-day study, benfotiamine reduced neuroinflammation in the hippocampus and protected against oxidative damage in the cortex.²⁸

In a 15-day study, benfotiamine restored glutathione, a key antioxidant that helps protect the brain from oxidative stress, a major driver of Alzheimer's progression.²⁹

In a 30-day study, benfotiamine increased active thiamine in memory-critical brain regions including the hippocampus, improved cellular energy production, reduced inflammation, supported healthier insulin signaling, and improved cognitive performance.²⁶



Benfotiamine Supports Human Brain Function

Early **human** evidence came from an 18-month study in five adults with mild to moderate Alzheimer's who took **300 mg** of benfotiamine daily.³⁰

Instead of the usual, expected 1- to 3-point decline on the Mini-Mental State Examination over this period,³¹ participants improved by an average of 3.2 points.³⁰

Stronger support for benfotiamine comes from a clinical trial of 70 people with mild cognitive impairment or early-stage Alzheimer's. Participants took either **300 mg** of benfotiamine or a placebo twice daily for 12 months.³

Those receiving benfotiamine showed:

- A 161-fold increase in blood thiamine levels from baseline.
- **77% less decline** than the placebo group on the Clinical Dementia Rating, which evaluates memory, problem solving, and daily functioning.
- A significant reduction in advanced glycation end products, compared to an increase in the placebo group.

Together, findings from human and animal studies suggest that oral benfotiamine shows promise in supporting cognitive function.

Summary

High blood sugar and insulin resistance interfere with the brain's ability to use glucose, contributing to **cognitive decline**.

Thiamine is essential for healthy brain glucose metabolism, yet people with high blood sugar often have low thiamine levels. **Benfotiamine**, a fat-soluble form of thiamine, offers much better bioavailability.

Findings from animal and human studies suggest that benfotiamine may support cognitive function and slow early **cognitive decline** in people with mild cognitive impairment or early-stage Alzheimer's 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.



What You
Need
To Know

Benfotiamine Bolsters Brain Function

- High blood sugar and insulin resistance reduce the brain's ability to use glucose, a condition strongly linked to **cognitive decline** and dementia.
- **Thiamine** (vitamin B1) is required for healthy brain glucose metabolism, yet people with elevated blood sugar are frequently low in this vitamin.
- **Benfotiamine** is a fat-soluble, highly bioavailable form of thiamine that achieves substantially higher thiamine levels than standard thiamine.
- In a year-long trial of people with mild cognitive impairment or early-stage **Alzheimer's**, benfotiamine resulted in **77% less decline** on a clinical dementia rating scale compared with placebo.

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Healthy Aging Amino Acid

L-ergothioneine, an amino acid found in **mushrooms**, is delivered directly to our cells and mitochondria

Mega L-Ergothioneine provides a powerful dose of highly bioavailable¹ **L-ergothioneine** and may support healthy aging by:

- Promoting plasma ergothioneine levels¹
- Providing sustained ergothioneine levels¹ with **high bioavailability** and efficient absorption
- Supporting overall well-being²
- Offering cellular protection against oxidative stress^{1,3}

Just one daily vegetarian capsule of **Mega L-Ergothioneine** provides a full **25 mg** of **L-ergothioneine**.

This strength provides **25 mg** of **L-ergothioneine** per capsule, which is equivalent to the amount found in approximately **10 to 23** cups of white button mushrooms.³⁻⁵



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1 bottle **\$28.50**
4 bottles \$26 each

For full product description and to order **Mega L-Ergothioneine**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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Youthful SKIN Begins INSIDE

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Oral intake of certain plant-derived **nutrients** has been shown to produce noticeable results in skin health and appearance.

Daily Skin Defense contains nutrients clinically demonstrated to help promote:

**3-fold improvement in skin moisturization and
10-fold reduction in the appearance of wrinkle depth compared with placebo.¹**

Just one capsule of **Daily Skin Defense** provides:

- **Rice-derived ceramides** designed to help promote **skin moisture**.^{2,3}
- **Four Herbal Extracts** to support the skin's barrier function against environmental factors and reduce appearance of **wrinkle depth**.¹
- **Vitamin C** to support collagen production and the skin's natural protection against the oxidative effects of UV light.^{4,5}

Item #02423

30 vegetarian capsules

1 bottle **\$24**

4 bottles \$22 each



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The quickest way to
betray your age is with
a tired appearance...



Item #02322

120 tablets

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Working from the inside out, **Hair, Skin & Nails Collagen Plus Formula** is an oral supplement with nutrients shown to benefit the hair, skin, and nails to keep them looking vibrant and healthy.

Rejuvenating nutrients include:

- **VERISOL® Bioactive Collagen Peptides®**—Stimulates the formation of new collagen and elastin to promote skin suppleness and elasticity¹
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- **Biotin**—Supports nail strength and integrity²
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Clinical research has shown that **aged black garlic** provides targeted support for healthy serum triglycerides, blood pressure, and cholesterol within normal range.⁴



Item #02530

30 500 mg vegetarian capsules
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4 bottles \$17.50 each



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1. *Molecules*. 2021 Aug 19;26(16):5028.
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4. *OAJCAM*. September 20, 2023;6(1).

For full product description and to order **Aged Black Garlic Odorless Extract**,
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Mega Benfotiamine provides a fat-soluble form of thiamine (vitamin B1) known as benfotiamine.

Benfotiamine helps support cellular health by impeding formation of **advanced glycation end products** (AGES).^{1,2,3}

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Item #00925

120 vegetarian capsules

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4 bottles \$24 each

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What are Prebiotics?

BY LAURIE MATHENA



Prebiotics are the unsung heroes of a healthy **microbiome**.

Their primary job is to feed and support the trillions of **good** bacteria in the digestive tract. Various prebiotics have been shown to influence appetite,^{1,2} immune function,³ cholesterol levels,⁴ fasting blood sugar,⁵ and more.

Despite their importance, some individuals may experience excessive flatulence and general digestive discomfort when consuming prebiotics, particularly at higher doses, which in some cases may be severe enough to discourage continued consumption.⁶

A unique prebiotic called **xylooligosaccharides**, or **XOS**, can boost beneficial *Bifidobacterium* at lower doses than conventional prebiotics.⁷

Preclinical studies suggest **XOS** may also reduce blood sugar,^{8,9} lower LDL cholesterol and triglycerides,^{10,11} and decrease precancerous colonic lesions.^{8,9,12}

In a human trial, **XOS** supplementation increased HDL cholesterol and production of beneficial bacteria in healthy adults—without the uncomfortable symptoms associated with other commercial prebiotics.¹³

Give Good Bacteria a Boost

A prebiotic is a food ingredient that resists digestion, is then fermented by intestinal microorganisms, and ultimately stimulates the growth of good bacteria.¹⁴

Xylooligosaccharides, or **XOS**, is a prebiotic made from corn cobs.¹⁵ Two factors set XOS apart from other types of prebiotics.⁷

- First, XOS has a demonstrated bifidogenic effect, increasing *Bifidobacterium* counts over 4 to 8 weeks of supplementation.
- Second, XOS works at small doses, which minimizes unpleasant side effects often associated with other prebiotics.

Bifidobacteria are among the most beneficial bacteria in the microbiome. These “good guys” help protect against allergic diseases,¹⁶⁻¹⁸ contribute to cholesterol reduction,¹⁹ and support immune homeostasis.²⁰

Unfortunately, levels of bifidobacteria dramatically decline with age. In naturally delivered, breastfed infants, bifidobacteria can constitute up to **90%** of all gut bacteria. Their relative abundance diminishes significantly after weaning and decreases further in the elderly.^{21,22}

This is problematic, as low levels of *Bifidobacterium* may weaken the immune balance.²³

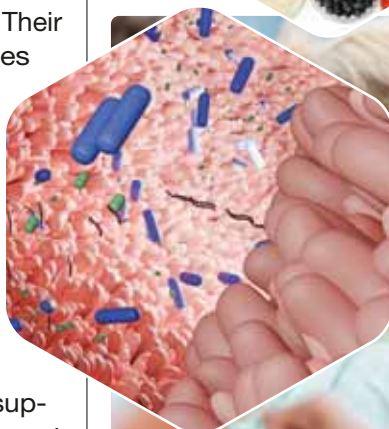
These bacteria play important roles in the metabolism of dietary components^{22,23} and support the proper development and function of the immune system.^{20,23}

Research shows that XOS can effectively boost bifidobacteria in healthy adults.^{7,13,24}

In one study, 32 healthy subjects took either low-dose **XOS (1.4 grams)**, high-dose **XOS (2.8 grams)**, or a placebo. Eight weeks later, *Bifidobacterium* counts increased in both XOS groups, with the high-dose group showing significantly *greater* increases than the low-dose group.⁷

These doses are lower than what some other prebiotics require to achieve significant increases in bifidobacteria. For comparison, the optimal dose of short chain **fructooligosaccharides (FOS)** that significantly increased fecal bifidobacteria in healthy volunteers was found to be **10 grams/day**.²⁵

Higher doses were more consistently associated with unpleasant side effects.²⁵



Health Benefits of XOS

XOS has been studied for potential health benefits. Preclinical studies suggest that XOS may help lower cholesterol, improve calcium absorption for stronger bones, and possibly reduce the risk of colon cancer.⁸

In a mouse model of gestational diabetes, those given **XOS** experienced decreases in fasting blood glucose, insulin, and HOMA-IR (a measure of insulin resistance).²⁶ Another mouse study indicated that XOS could potentially help treat constipation.²⁷

A small randomized, double-blind study in type II diabetics showed that taking XOS daily for 8 weeks was associated with modest improvements in blood sugar (glucose, HbA1c, fructosamine) and lipid levels (oxidized LDL, cholesterol, apolipoprotein B).²⁸

In another human study, daily **XOS** supplementation increased levels of butyrate-producing activity,²⁴ a short-chain fatty acid that has been linked with gut and brain health in animal studies.²⁹

Summary

Prebiotics are important for overall health because they feed and support beneficial bacteria in the microbiome.

XOS is a unique prebiotic that may help boost levels of bifidobacteria.

XOS supplementation has been studied for its effects on blood sugar, atherogenic lipids, and for its potential role in gut metabolism, as well as markers associated with colon health.

Because it works at significantly lower doses than other common prebiotics, **XOS** has been associated with fewer reports of unpleasant side effects like flatulence compared to some other prebiotics. •

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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Christine
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SMART

Body & Brain

B12

B12

B12



BIOACTIVE FORMS OF VITAMIN B12

B12 Elite provides both:

ADENOSYLCOBALAMIN

- Active in brain cell mitochondria.
- Supports nerve cell function.
- Supports cellular energy production.

METHYLCOBALAMIN

- Supports brain cell function.
- Promotes red blood cell production.
- Helps maintain healthy homocysteine levels.

Take one vegetarian lozenge daily.

Item #02419

60 vegetarian lozenges

1 bottle **\$8.25**

4 bottles \$7.50 each



For full product description and
to order **B12 Elite**,
call 1-800-544-4440 or visit
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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.

Kiwi

BY LAURIE MATHENA

Kiwifruit, also known as Chinese gooseberry, is a nutrient-dense berry known for its fuzzy brown skin and bright green flesh.

Beyond their appearance, the most noteworthy feature of kiwis is their exceptionally high vitamin C content, with golden varieties providing up to three times that of oranges. One medium green kiwifruit provides about **85 mg** of vitamin C per **100 grams**, while the golden varieties can deliver up to **161 mg** of vitamin C per **100 grams**.^{1,2}

This high vitamin C content could contribute to meaningful improvements in vitamin C blood levels. A study of 36 young men with below-optimal vitamin C status found that consuming half or two gold kiwifruit per day for 6 weeks significantly increased plasma vitamin C concentrations, with the higher dose raising levels to adequate status (**>50 µmol/L**).³

In addition to vitamin C, kiwis contain carotenoids, polyphenols, and dietary fiber—all of which can potentially benefit the immune system. Evidence from in vitro studies and animal models suggests that the compounds in kiwifruit may exert immune-modulating effects. Human intervention trials further indicate that regular consumption may reduce the severity of upper respiratory tract infections.⁴

Research also links regular kiwi consumption to improvements in digestive health.² For example, a systematic review and meta-analysis of 7 randomized, controlled trials found that kiwifruit or its extracts increased the frequency of spontaneous bowel movements, while reducing abdominal pain in individuals with constipation, compared to placebo.⁵

In addition, observational data link habitual kiwifruit intake with favorable metabolic markers. In a study of 1,469 participants, those who ate at least one kiwi per week had higher HDL cholesterol, lower triglycerides, reduced fibrinogen levels (a marker related to blood clotting and inflammation), and lower HOMA-IR values (indicating better insulin sensitivity), compared to those who ate less than one kiwi per week.⁶

Complementing these findings, a randomized controlled trial demonstrated that individuals with high-normal blood pressure or stage 1 hypertension who ate three kiwifruit per day for eight weeks experienced greater reductions in 24-hour systolic and diastolic blood pressure compared to those consuming one apple per day.⁷

While kiwifruit is typically eaten peeled and sliced, eating it with the skin on can further increase fiber intake. If consuming with the skin, wash the fruit thoroughly and bite into it like an apple. ●

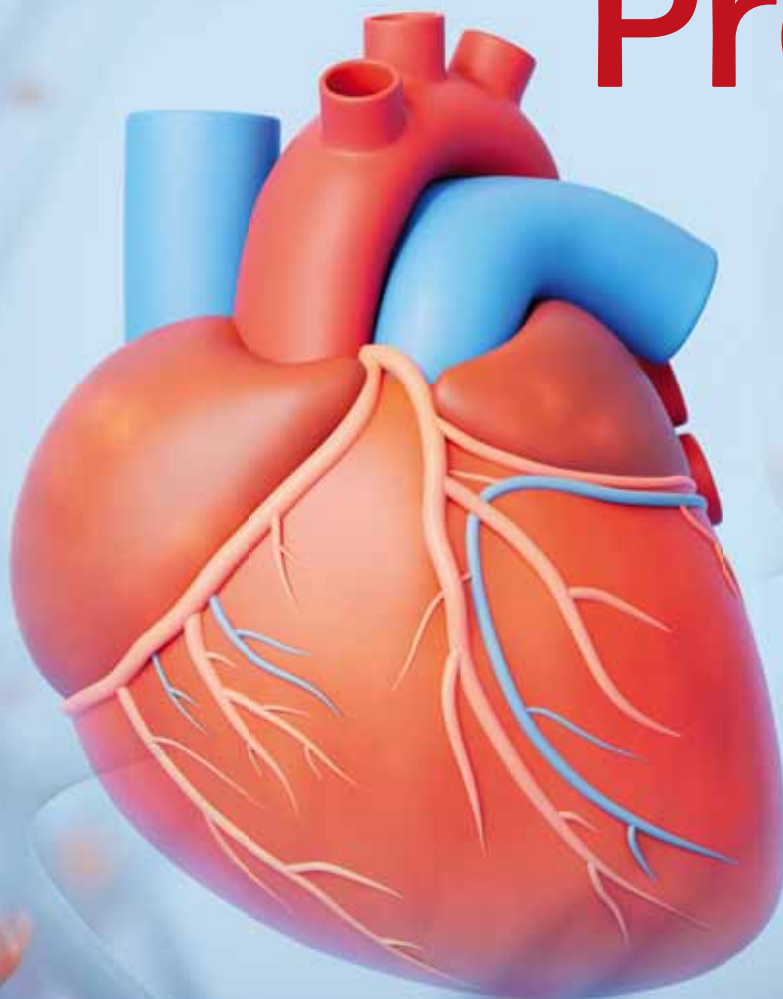
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Arterial Protect supports the body's natural processes for managing arterial debris to help maintain endothelial and circulatory health.*

Each capsule provides the patented French Maritime **pine bark extract** used in clinical studies along with **Gotu Kola**.

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or visit **www.LifeExtension.com**

* Int Angiol. 2014 Feb;33(1):20-6.

Item #02004

30 vegetarian capsules

1 bottle **\$33**

4 bottles \$29 each



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eye

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"It's AWESOME."

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Eye Pressure Support with Mirtogenol®

formula is designed to
support blood flow in tiny
vessels of the eyes,
to help maintain healthy
fluid pressure.

Item #01514

30 vegetarian capsules

1 bottle **\$30.75**

4 bottles \$28.25 each



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with Mirtogenol®** call 1-800-544-4440 or visit www.LifeExtension.com

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ACTIVE LIFESTYLE & FITNESS

02545	Active Vitality & Strength
01529	Creatine Capsules
02543	Creatine Powder
02020	Super Carnosine
02532	Creatine & Acetyl-L-Carnitine Energy Plus
02023	Tart Cherry with CherryPURE®
02246C	Wellness Code® Advanced Whey Protein Isolate Vanilla
02221	Wellness Code® Muscle Strength & Restore Formula
02127	Wellness Code® Plant Protein Complete & Amino Acid Complex
02261C	Wellness Code® Whey Protein Concentrate Chocolate
02260	Wellness Code® Whey Protein Concentrate Vanilla
02243C	Wellness Code® Whey Protein Isolate Chocolate
02242	Wellness Code® Whey Protein Isolate Vanilla

AMINO ACIDS

00038	Arginine Ornithine Powder
01253	Branched Chain Amino Acids
01829	Carnosine
01671	D,L-Phenylalanine Capsules
01624	L-Arginine Caps
01532	L-Carnitine
00345	L-Glutamine
00141	L-Glutamine Powder
01678	L-Lysine
01827	Taurine
00133	Taurine Powder

ANTI-AGING & LONGEVITY

00457	Alpha-Lipoic Acid
02414	Bio-Fisetin®
02547	Bio-Luteolin™
02548	Biological Aging Defense
01214	Blueberry Extract
01438	Blueberry Extract and Pomegranate
02431	Essential Youth - L-Ergothioneine
02119	GEROPROTECT® Ageless Cell™
02415	GEROPROTECT® Autophagy Renew
02401	GEROPROTECT® Stem Cell
02211	Grapeseed Extract
02527	Healthy Aging Powder
00954	Mega Green Tea Extract (decaffeinated)
00953	Mega Green Tea Extract (lightly caffeinated)
02540	Mega L-Ergothioneine
01513	Optimized Fucoidan with Maritech® 926
02230	Optimized Resveratrol Elite™
01637	Pycnogenol® French Maritime Pine Bark Extract
02210	Resveratrol Elite™
02301	Senolytic Activator®
01208	Super R-Lipoic Acid

BLOOD PRESSURE & VASCULAR SUPPORT

01824	Advanced Olive Leaf Vascular Support
02004	Arterial Protect
56885	Natto Activ Cardiovascular & Respiratory Support
02320	NitroVasc™ Boost
01953	Pomegranate Complete

00956	Pomegranate Fruit Extract
02024	Triple Action Blood Pressure AM/PM
02102	VenoFlow™

BONE HEALTH

01726	Bone Restore Calcium Supplement
02123	Bone Restore Calcium Supplement Chewable Tablet
02416	Bone Restore Elite with Super Potent K2
01727	Bone Restore Calcium Supplement w/ Vitamin K2
01725	Bone Strength Collagen Formula
01963	Calcium Citrate with Vitamin D
01506C	Dr. Strum's Intensive Bone Formula
02417	Mega Vitamin K2
01476	Strontium Caps

BRAIN HEALTH

01524	Acetyl-L-Carnitine
01974	Acetyl-L-Carnitine Arginate
02419	B12 Elite
02510	Brain Fog Relief
01659	CDP Choline
02321	Cognitex® Alpha GPC
02396	Cognitex® Elite
02397	Cognitex® Elite Pregnenolone
01540	DMAE Bitartrate
02006	Dopa-Mind™
02413	Dopamine Advantage
01658	Ginkgo Biloba Certified Extract™
01527	Huperzine A
00020	Lecithin
02101	Memory Protect
00709	Migra-Eeze™
01603	Neuro-Mag® Magnesium L-Threonate Caps
02032	Neuro-Mag® Magnesium L-Threonate Powder
02520	Neuro-Mag® Magnewum L-Threonate Gummies
00888	Optimized Ashwagandha
01676	PS (Phosphatidylserine) Caps
02406	Quick Brain Nootropic®
02560	Ultra Memory & Recall™
01327	Vinpocetine

CHOLESTEROL MANAGEMENT

01828	Advanced Lipid Control
01910	CHOL-Support™
00372	Vitamin B3 Niacin Capsules

DIGESTION SUPPORT

02412	Bloat Relief
02514	Easy Fiber
01736	Effervescent Vitamin C - Magnesium Crystals
02021	Enhanced Super Digestive Enzymes
02022	Enhanced Super Digestive Enzymes and Probiotics
02033	EsophaCool™
01737	Esophageal Guardian
02533	Food Sensitivity Relief with Diamine Oxidase
02100	Gastro-Ease™

ENERGY MANAGEMENT

01628C	Adrenal Energy Formula • 60 vegetarian capsules
01630C	Adrenal Energy Formula • 120 vegetarian capsules
00972	D-Ribose Powder
01473	D-Ribose Tablets

01900	EnergyGain™
01544	Forskolin
01805	Ginseng Energy Boost
01869	Mitochondrial Basics with PQQ
01868	Mitochondrial Energy Optimizer with PQQ
01904	NAD ⁺ Cell Regenerator™ • 100 mg, 30 veg capsules
02344	NAD ⁺ Cell Regenerator™ 300 mg, 30 veg capsules
02348	NAD ⁺ Cell Regenerator™ and Resveratrol Elite™
02555	NAD ⁺ Cell Support NMN • 30 veg capsules
02558	NAD ⁺ Cell Support NMN • 90 veg capsules
02556	Optimized NAD ⁺ NMN w/Resveratrol Elite 30 vegetarian capsules
02559	Optimized NAD ⁺ NMN w/Resveratrol Elite 90 vegetarian capsules
01500	PQQ Caps • 10 mg, 60 vegetarian capsules
01647	PQQ Caps • 20 mg, 30 vegetarian capsules
00889	Rhodiola Extract
02003	Thyroid Support Complex

EYE HEALTH

01923	Astaxanthin with Phospholipids
02551	Digital Eye Support
01514	Eye Pressure Support with Mirtogenol®
01992	MacuGuard® Ocular Support with Saffron
01993	MacuGuard® Ocular Support with Saffron & Astaxanthin
01873	Standardized European Bilberry Extract
01918	Tear Support with MaquiBright®

FISH OIL & OMEGAS

01937	Mega EPA/DHA
02218	Mega GLA Sesame Lignans
01983	Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 60 softgels
01988	Super Omega-3 Plus EPA/DHA Fish Oil, Sesame Lignans, Olive Extract, Krill & Astaxanthin
01982	Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 120 softgels
01985	Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 60 enteric coated softgels
01984	Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 120 enteric coated softgels
01986	Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 240 softgels
01812	Provinal® Purified Omega-7
01640	Vegetarian DHA

FOOD

02008	California Estate Extra Virgin Olive Oil
02170	Rainforest Blend Decaf Ground Coffee
02169	Rainforest Blend Ground Coffee
02171	Rainforest Blend Whole Bean Coffee

GLUCOSE MANAGEMENT

01503	CinSulin® with InSea2® and Crominex® 3+
01620	CoffeeGenic® Green Coffee Extract
02122	Glycemic Guard™
00925	Mega Benfotiamine
01803	Tri Sugar Shield®

HEART HEALTH

02530	Aged Black Garlic
02553	AmpliQ CoQ10™ • 50 mg, 60 vegetarian capsules
02554	AmpliQ CoQ10™ • 100 mg, 60 vegetarian capsules
01066	Aspirin (Enteric Coated)
01842	BioActive Folate & Vitamin B12 Caps
02531	Cardio Peak™
01949	CoQ10 (Ubiquinone) with d'Limonene • 50 mg, 60 softgels
01951	CoQ10 (Ubiquinone) with d'Limonene • 100 mg, 60 softgels
02121	Homocysteine Resist
02508	Omega-3 Fish Oil Gummy Bites
02018	Optimized Carnitine
01929	Super Ubiquinol CoQ10
01427	Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 50 mg, 30 softgels
01425	Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 50 mg, 100 softgels
01437	Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 100 mg, 30 softgels
01426	Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 100 mg, 60 softgels
01431	Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 200 mg, 30 softgels
01733	Super Ubiquinol CoQ10 with PQQ
01859	TMG Liquid Capsules
00349	TMG Powder

HORMONE BALANCE

01468	Cruciferous Vegetable Extract Blend
01469	Cruciferous Vegetable Extract Blend and Resveratrol
00454	DHEA • 15 mg, 100 capsules
00335	DHEA • 25 mg, 100 capsules
00882	DHEA • 50 mg, 60 capsules
00607	DHEA • 25 mg, 100 vegetarian dissolve in mouth tablets
01689	DHEA • 100 mg, 60 vegetarian capsules
02368	Optimized Broccoli with Myrosinase
00302	Pregnenolone • 50 mg, 100 capsules
00700	Pregnenolone • 100 mg, 100 capsules

IMMUNE SUPPORT

02546	Bee Immune Propolis Capsules
02550	Bee Immune Propolis Spray
02302	Bio-Quercetin®
02433	Echinacea Elite
01961	Enhanced Zinc Lozenges
02425	Immune Packs with Vitamin C & D, Zinc and Probiotic
02005	Immune Senescence Protection Formula™
01681	Lactoferrin (Apolactoferrin) Caps
02426	Mushroom Immune with Beta Glucans
01903	NK Cell Activator™
01394	Optimized Garlic
01309	Optimized Quercetin
01811	Peony Immune
01708	Reishi Extract Mushroom Complex
01906	Standardized Cistanche
01561	Zinc Lozenges

INFLAMMATION HEALTH SUPPORT

01639	Boswellia
02324	Advanced Curcumin Elite™ Turmeric Extract, Ginger & Turmerones
01709	Black Cumin Seed Oil
02310	Black Cumin Seed Oil and Curcumin Elite™
02467	Curcumin Elite™ Turmeric Extract 30 vegetarian capsules
02407	Curcumin Elite™ Turmeric Extract 60 vegetarian capsules
01804	Cytokine Suppress® with EGCG
02223	Pro-Resolving Mediators
56886	Restore Activ Joint, Muscle & Tissue
01203	Specially-Coated Bromelain
00407	Super Bio-Curcumin® Turmeric Extract

JOINT SUPPORT

02238	ArthroMax® Advanced NT2 Collagen™ & AprèsFlex®
00965	Fast-Acting Joint Formula
02430	Fast Acting Relief
00522	Glucosamine/Chondroitin Capsules
02420	Glucosamine Sulfate
02424	Joint Mobility
01600	Krill Healthy Joint Formula
02529	Lower Back Relief
00451	MSM (Methylsulfonylmethane)
02231	NT2 Collagen™

KIDNEY & BLADDER SUPPORT

00862	Cran-Max® Cranberry Whole Fruit Concentrate
01424	Optimized Cran-Max®
01921	Uric Acid Control
01209	Water-Soluble Pumpkin Seed Extract

LIVER HEALTH & DETOXIFICATION

01922	Advanced Milk Thistle • 60 softgels
01925	Advanced Milk Thistle • 120 softgels
02240C	Anti-Alcohol Complex
01651	Calcium D-Glucarate
01571	Chlorophyllin
02402	FLORASSIST® Liver Restore™
02521	Glutathione
01541	Glutathione, Cysteine & C
01393	HepatoPro
01608	Liver Efficiency Formula
01522	Milk Thistle • 60 vegetarian capsules
01534	N-Acetyl-L-Cysteine
01884	Silymarin
02361	SOD Booster

LUNG HEALTH

02512	Healthy Lungs
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MEN'S HEALTH

02538	Hair Growth for Men
02549	Advanced Male Sexual Support
02209	Male Vascular Sexual Support
00455	Mega Lycopene Extract
02306	Men's Bladder Support

01789	PalmettoGuard® Saw Palmetto and Beta-Sitosterol
01790	PalmettoGuard® Saw Palmetto/Nettle Root Formula and Beta-Sitosterol
01373	Prelox® Enhanced Sex for Men
01940	Super MiraForte with Standardized Lignans
02500	Testosterone Elite®
01909	Triple Strength ProstaPollen™
02029	Ultra Prostate Formula

MINERALS

01661	Boron
02107	Extend-Release Magnesium
01677	Iron Protein Plus
02403	Lithium
01459	Magnesium Caps
01682	Magnesium (Citrate)
02535	Magnesium Glycinate
01328	Only Trace Minerals
01504	Optimized Chromium with Crominex® 3+
02309	Potassium with Extend-Release Magnesium
01740	Sea-Iodine™
01879	Se-Methyl L-Selenocysteine
01778	Super Selenium Complex
00213	Vanadyl Sulfate
01813	Zinc Caps

MISCELLANEOUS

00577	Potassium Iodide
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MOOD & STRESS MANAGEMENT

02519	Ashwagandha Plus
02434	Calm-Mag
02312	Cortisol-Stress Balance
00987	Enhanced Stress Relief
02542	GABA
01683	L-Theanine
02175	SAMe (S-Adenosyl-Methionine) 200 mg, 30 enteric coated vegetarian tablets
02176	SAMe (S-Adenosyl-Methionine) 400 mg, 30 enteric coated vegetarian tablets
02174	SAMe (S-Adenosyl-Methionine) 400 mg, 60 enteric coated vegetarian tablets
02429	Theanine XR™ Stress Relief

MULTIVITAMINS

02199	Children's Formula Life Extension Mix™
02354	Life Extension Mix™ Capsules
02364	Life Extension Mix™ Capsules without Copper
02356	Life Extension Mix™ Powder
02355	Life Extension Mix™ Tablets
02357	Life Extension Mix™ Tablets with Extra Niacin
02365	Life Extension Mix™ Tablets without Copper
02292	Once-Daily Health Booster • 30 softgels
02291	Once-Daily Health Booster • 60 softgels
02313	One-Per-Day Tablets
02317	Two-Per-Day Capsules • 60 capsules
02314	Two-Per-Day Capsules • 120 capsules
02316	Two-Per-Day Tablets • 60 tablets
02315	Two-Per-Day Tablets • 120 tablets
02428	Whole Food Multivitamin

NERVE & COMFORT SUPPORT

- 02202 ComfortMAX™
- 02303 Discomfort Relief
- 02544 Migra-Health™

PERSONAL CARE

- 02322 Hair, Skin & Nails Collagen Plus Formula
- 01278 Life Extension® Toothpaste
- 00408 Venotone

PET CARE

- 01932 Cat Mix
- 01931 Dog Mix

PROBIOTICS

- 01622 Bifido GI Balance
- 02421 FLORASSIST® Probiotic Daily Bowel Regularity
- 02125 FLORASSIST® Probiotic GI with Phage Technology
- 01821 FLORASSIST® Probiotic Heart Health
- 02250 FLORASSIST® Probiotic Mood Improve
- 02120 FLORASSIST® Probiotic Oral Hygiene
- 02203 FLORASSIST® Prebiotic Chewable
- 01825 FLORASSIST® Probiotic Balance
- 02505 FLORASSIST® Probiotic Women's Health
- 02539 FLORASSIST® Probiotic Youthful Gut

SKIN CARE

- 02423 Daily Skin Defense
- 01938 Shade Factor™
- 02129 Skin Care Collection Anti-Aging Serum
- 02130 Skin Care Collection Day Cream
- 02131 Skin Care Collection Night Cream
- 02096 Skin Restoring Ceramides

SLEEP

- 02234 Fast-Acting Liquid Melatonin
- 01669 Glycine
- 01722 L-Tryptophan
- 01668 Melatonin • 300 mcg, 100 vegetarian capsules
- 01083 Melatonin • 500 mcg, 200 vegetarian capsules
- 00329 Melatonin • 1 mg, 60 capsules
- 00330 Melatonin • 3 mg, 60 vegetarian capsules
- 00331 Melatonin • 10 mg, 60 vegetarian capsules
- 00332 Melatonin • 3 mg, 60 vegetarian lozenges
- 02201 Melatonin IR/XR
- 01787 Melatonin 6 Hour Timed Release
300 mcg, 100 vegetarian tablets
- 01788 Melatonin 6 Hour Timed Release
750 mcg, 60 vegetarian tablets
- 01786 Melatonin 6 Hour Timed Release • 3 mg,
60 vegetarian tabs
- 01445 Quiet Sleep Melatonin • 5 mg, 60 veg capsules
- 02502 Rest & Renew
- 02526 Serene Sleep

VITAMINS

- 01533 Ascorbyl Palmitate
- 00920 Benfotiamine with Thiamine
- 01945 BioActive Complete B-Complex
- 00102 Biotin

- 00084 Buffered Vitamin C Powder
- 02229 Fast-C® and Bio-Quercetin®
- 02075 Gamma E Mixed Tocopherol Enhanced with
Sesame Lignans
- 02070 Gamma E Mixed Tocopherol & Tocotrienols
- 01913 High Potency Optimized Folate
- 01674 Inositol Caps
- 02244 Liquid Vitamin D3 • 50 mcg (2000 IU)
- 02232 Liquid Vitamin D3 (Mint) • 50 mcg (2000 IU)
- 01936 Low-Dose Vitamin K2
- 00373 No Flush Niacin
- 01939 Optimized Folate (L-Methylfolate)
- 01217 Pyridoxal 5'-Phosphate Caps
- 01400 Super Absorbable Tocotrienols
- 02334 Super K
- 01863 Super Vitamin E
- 02422 Vegan Vitamin D3
- 02028 Vitamin B5 (Pantothenic Acid)
- 01535 Vitamin B6
- 00361 Vitamin B12 Methylcobalamin
- 01536 Vitamin B12 Methylcobalamin
1 mg, 60 vegetarian lozenges
- 01537 Vitamin B12 Methylcobalamin
5 mg, 60 vegetarian lozenges
- 02228 Vitamin C and Bio-Quercetin®
60 vegetarian tablets
- 02227 Vitamin C and Bio-Quercetin®
250 vegetarian tablets
- 01753 Vitamin D3 • 25 mcg (1000 IU), 90 softgels
- 01751 Vitamin D3 • 25 mcg (1000 IU), 250 softgels
- 01713 Vitamin D3 • 125 mcg (5000 IU), 60 softgels
- 01718 Vitamin D3 • 175 mcg (7000 IU), 60 softgels
- 01758 Vitamin D3 with Sea-Iodine™
- 02040 Vitamins D and K with Sea-Iodine™

WEIGHT MANAGEMENT & BODY COMPOSITION

- 02479 7-Keto® DHEA Metabolite
100 mg, 60 vegetarian capsules
- 02207 AMPK Metabolic Activator
- 02478 DHEA Complete
- 02506C Mediterranean Weight Management
- 01432 Optimized Saffron
- 02511 Thermo Weight Control
- 02509 Waistline Control™

WOMEN'S HEALTH

- 01942 Breast Health Formula
- 02537 Daily PMS Relief
- 02534 Estrogen Balance Elite
- 01894 Estrogen for Women
- 02541 Hair Growth for Women
- 02204 Menopause Relief
- 02319 Prenatal Advantage
- 02536 Sexual Health for Her
- 01649 Soy Isoflavones
- 02513 Women's Bladder Support

"Very happy with the product."

Sherrie
VERIFIED BUYER

SUPPORT HEALTHY

Gut Balance

With Strawberry Flavored
FLORASSIST® Prebiotic Chewable



Item #02203 | 60 vegetarian chewable tablets
1 bottle \$15.75 | 4 bottles \$14 each

PreticX®
IN A TASTY
STRAWBERRY
CHEWABLE

- With age, our **bifidobacteria** levels decline to as little as **5%**, creating gut imbalance.¹
- *Increasing **bifidobacteria** levels enhances digestion and carbohydrate metabolism.*
- *Strawberry flavored **FLORASSIST®** Prebiotic Chewable helps support **bifidobacteria** levels using **XOS** prebiotic.²*
- **1,000 mg** of **XOS** (xylooligosaccharides) per prebiotic chewable.

For full product description and to order **FLORASSIST®** Prebiotic Chewable,
call 1-800-544-4440 or visit www.LifeExtension.com

References 1. *Front Microbiol.* 2016;7:1204. 2. *Food Func.* 2014;Jan(5):436-445.
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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.

A Key to Aging Well

NEW



If your body doesn't bounce back the way it used to, it may be due to the decline of **NAD⁺**, a coenzyme found in every cell.

NAD⁺ facilitates the production of **ATP**, which your body uses for fuel.¹

NMN (nicotinamide mononucleotide) provides a **cost-effective NAD⁺** precursor.

NMN with Resveratrol Elite™ formula provides **trans-resveratrol**, **quercetin**, and **fisetin** for cell support...in addition to **300 mg** of **NMN**.

In controlled **human** trials, oral **NMN** supplementation significantly increased blood **NAD⁺ levels** compared to placebo. **NMN** is a lower-cost way to boost **NAD⁺**.³



NAD⁺ Cell Support NMN
Nicotinamide Mononucleotide
300 mg of nicotinamide mononucleotide per capsule.

Item #02555 • 30 vegetarian capsules
1 bottle **\$13.50** • 4 bottles \$12 each

Item #02558 • 90 vegetarian capsules
1 bottle **\$28.50** • 4 bottles \$26 each

Optimized NAD⁺ Cell Support-NMN Nicotinamide Mononucleotide with Resveratrol Elite™
300 mg of nicotinamide mononucleotide + *trans*-resveratrol, quercetin and fisetin.

Item #02556 • 30 vegetarian capsules
1 bottle **\$16.50** • 4 bottles \$15 each

Item #02559 • 90 vegetarian capsules
1 bottle **\$34.50** • 4 bottles \$32 each



For full product description and to order **NMN** or **NMN with Resveratrol Elite™**, call **1-800-544-4440** or visit **www.LifeExtension.com**

References: 1. *Nat Rev Mol Cell Biol.* 2021 Feb;22(2):119-41. 2. *NPJ Aging.* 2022 May 1;8(1):5. 3. *Geroscience.* 2024 Oct;46(5):4671-4688.

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



The Science of a Healthier Life®

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7 THE AGING EYE—WHEN LOWER PRESSURE IS BETTER

Newer guidelines for **glaucoma** protection call for lower **intraocular pressure** (IOP) to reduce **optic nerve** damage.



22 WHOLE-BODY HEALTH STARTS IN THE MOUTH

A novel **toothpaste** provides beneficial **nutrients** and **botanicals** to help improve **oral health**.



34 CAROTENOIDS FOR EYE HEALTH

Two orally taken **carotenoid** pigments filter **blue light** and clinically improved recovery time after bright light exposure.



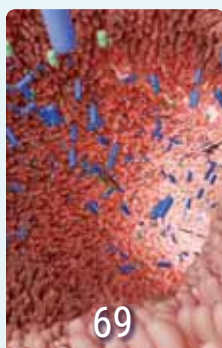
46 VITAMIN D AND MENOPAUSE

Menopause and aging can *lower* **vitamin D** levels *impacting* bone, muscle, and normal cellular functions.



58 PROTECT BRAIN CELLS FROM SUGAR DAMAGE

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Prebiotics feed the **good bacteria** in your gut. A unique **prebiotic** *boosts* the beneficial **bacteria** thereby enhancing various markers of health.

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