

SAFE WAYS TO MANAGE ANXIETY

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March 2011

HOW GOVERNMENT FUELS THE HEALTHCARE COST CRISIS

**Blueberries Halt
Metabolic Syndrome**

**How Curcumin
Combats Cancer**

**Anti-Inflammatory
Properties of Ginger**

**Protect Against
Chemotherapy-
Induced Skin Lesions**

\$4.99

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THE ULTIMATE TWO-PER-DAY TABLET

The following table compares the daily dosage of key nutrients included in both the Life Extension **Two-Per-Day Tablet** and **Centrum**'s Daily Tablet:

SAMPLE INGREDIENT COMPARISON	LIFE EXTENSION TWO-PER-DAY	CENTRUM*
Vitamin C	500 mg	60 mg
Vitamin D	2,000 IU	400 IU
Vitamin B1	75 mg	1.5 mg
Vitamin B2	50 mg	1.7 mg
Vitamin B6	75 mg	2 mg
Vitamin B12	300 mcg	6 mcg
Niacin (as niacinamide)	50 mg	20 mg
Pantothenic acid	100 mg	10 mg
Vitamin E	200 IU (natural)	30 IU (synthetic)
Natural Folate	400 mcg	400 mcg
Zinc	30 mg	11 mg
Selenium	200 mcg	55 mcg
Lutein	5 mg	(none)*
Lycopene	2 mg	(none)*
Biotin	300 mcg	30 mcg
Boron	3 mg	75 mcg
Chromium	200 mcg	35 mcg
Molybdenum	100 mcg	45 mcg
Magnesium	100 mg	50 mg
Manganese	2 mg	2.3 mg
Iodine	150 mcg	150 mcg
Potassium	25 mg	80 mg
Vitamin A (preformed)	500 IU	1,015 IU
Vitamin A (as beta-carotene)	4,500 IU	2,485 IU
Choline (as bitartrate)	20 mg	(none)
Inositol	50 mg	(none)
PABA	30 mg	(none)
Calcium	12 mg	200 mg

The most comprehensive nutrient formula in the world is **Life Extension Mix**. Some Foundation members, however, prefer to take their nutrients separately and need only a basic multi-nutrient supplement to fill the missing gaps. For many years, these members had to rely on commercial "one-a-day" supplements that provide very low potencies.

In response to requests for a science-based multi-nutrient, a special formula was compounded to provide the greatest potencies that can fit into two tablets. When compared to conventional "one-a-day" products, **Life Extension Two-Per-Day** contains up to **50 times more potency!**

The box on this page reveals how much more potent the **Two-Per-Day** formula is compared to the leading commercial multi-vitamin. Few consumers realize that commercial supplements often contain the cheapest form of nutrients that don't provide optimal benefits. For example, the 30 IU of synthetic vitamin E contained in **Centrum** may provide relatively little vitamin E to the bloodstream. Studies show that synthetic vitamin E is distributed throughout the body only about half as much as natural vitamin E.¹⁻⁵ The 200 IU of natural vitamin E contained in **Two-Per-Day** thus provides about **13 times** more vitamin E activity than does **Centrum**®.



Item #01515

Compared to **Centrum**®, **Two-Per-Day Tablets** provide about:

- 5 times more **Vitamin D**
- 8 times more **Vitamin C**
- 7 times more **Vitamin E**
- 10 times more **Biotin**
- 40 times more **Boron**
- 4 times more **Selenium**
- 37 times more **Vitamin B6**
- 50 times more **Vitamin B1**
- 50 times more **Vitamin B12**
- More than twice as much **niacin, zinc, and many other nutrients**

Life Extension Two-Per-Day Tablets provide much higher potencies of key nutrients and represent a better value than many commercial brands.

A bottle of 120 Life Extension Two-Per-Day Tablets retails for \$18.95. If a member buys four bottles, the price is reduced to \$12.75 per bottle. (The retail price for 180 tablets of **Centrum**® is around \$14.)

Contains soybeans, rice, and corn.

***Centrum**® no longer contains significant amounts of lycopene nor lutein.

References

1. *Am J Clin Nutr.* 1997 Mar;65(3):785-9.
2. *Am J Clin Nutr.* 1998 Apr;67(4):669-84.

3. *Biofactors.* 1999;10(2-3):115-20.

4. *Mol Aspects Med.* 2007 Oct;28(5-6):423-36.

5. *J Nutr Biochem.* 2004 Jul;15(7):380-95.

To order Life Extension Two-Per-Day Tablets,
call 1-800-544-4440 or visit www.LifeExtension.com

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.

REPORTS

28 BLUEBERRY EXTRACTS HALT METABOLIC SYNDROME

Today, **24%** of Americans endure the deadly **metabolic syndrome**—the co-occurrence of **insulin resistance, hypertension, obesity, and abnormal blood lipid** profiles. Find out how blueberry extracts may effectively target these factors and halt this lethal pandemic.

40 SAFELY MANAGE YOUR ANXIETY

Forty million Americans suffer from some form of **anxiety disorder**. The problems with anti-anxiety drugs are addiction, lost efficacy, and a host of side effects. In this exclusive excerpt from his latest book, ***The Chemistry of Calm***, psychiatrist Henry Emmons outlines proven natural strategies to safely manage anxiety.

52 HOW CURCUMIN PROTECTS AGAINST CANCER

As mainstream oncology misguidedly focuses on toxic, single-agent treatments, a wealth of compelling data puts **curcumin** at the forefront of *multimodal* cancer prevention.

64 PRACTICAL METHODS TO REDUCE CALORIE INTAKE

Thousands of scientific studies over the past 75 years have shown that low-calorie diets with optimal nutrition protect against disease and extend life span. Yet many find eating fewer calories difficult or unsatisfying. Discover efficient methods of following a reduced calorie diet.

74 NATURAL SKIN SOLUTIONS FOR CANCER TREATMENT SIDE EFFECTS

Radiation, chemotherapy, and surgery often lead to painful and unsightly dermatological effects, from rashes and dryness to acne and extreme dryness. Here we describe nutrients that can resolve these problems *topically*.



7 ON THE COVER

NO REAL HEALTHCARE COST CRISIS

For the past four decades, **Life Extension®** has warned that corrupt legislation and suffocating FDA regulation will *bankrupt* the United States. That day of reckoning is approaching as the government is rapidly losing the ability to subsidize the economically unsustainable healthcare costs it has created. Here we detail how inefficient and fraudulent government edicts have led to today's *disease-care* crisis—and how this catastrophe can be averted with commonsense changes to the law.

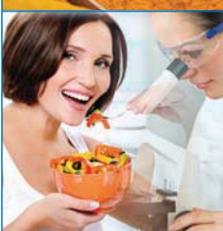
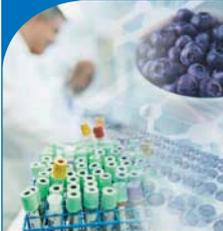
DEPARTMENTS

17 IN THE NEWS

Longevity linked to carotene intake; omega-3s combat age-related macular degeneration; and more.

87 SUPERFOODS

Traditional cultures have relied on **ginger** for treating a wide variety of ailments for thousands of years. Modern research has validated its efficacy. Thanks to an extensive phenolic profile, ginger can relieve dozens of common conditions, including migraine, upper respiratory infections, rheumatoid arthritis, morning sickness, and more.



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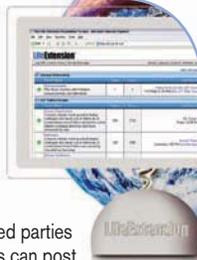
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The Optimal Tryptophan Formula!

When **tryptophan** is ingested as a food or supplement, it is naturally **degraded** by specialized **enzymes** in the body. The problem is that activity of one of these enzymes **increases** with **age**, thereby denying the brain the **tryptophan** it needs to produce adequate **serotonin**. The result of the **excess degradation** of **tryptophan** can be seen in serotonin-associated troubles, such as:

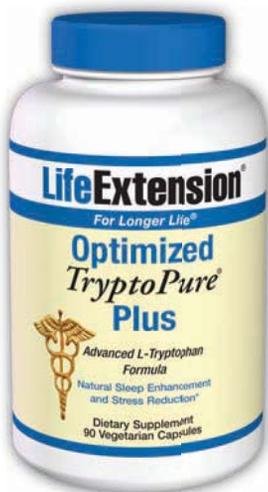
- 1) Poor sleep quality
- 2) Emotional mood and stress
- 3) Weight gain and appetite
- 4) Loss of feeling of well-being

The *degradation* of tryptophan in the body can be *inhibited* with the intelligent use of other nutrients. For instance, the amino acid **lysine** competes with tryptophan in the same oxidative degradation pathway. This means that in the presence of sufficient **lysine**, less **tryptophan** is broken down through oxidation.

The primary **tryptophan-degrading enzyme** is overactivated by **inflammatory cytokines**. The most comprehensive way to suppress the inflammatory factors that cause the **enzymatic degradation** of **tryptophan** is to take the proper

dose of **niacinamide** along with extracts from **ginger**, **hops**, and **rosemary**.

A patent-pending formula called **Optimized TryptoPure™ Plus** has been developed that provides **lysine**, **niacinamide**, **hops**, **ginger**, and **rosemary** extracts to protect **tryptophan** against excessive *degradation* in our aging bodies, thus sparing it for conversion into **serotonin** in the brain.



ITEM #01202

SAFEST TRYPTOPHAN IN THE WORLD!

Life Extension®'s **Optimized TryptoPure™ Plus** formula contains **tryptophan** that is certified pure enough to be used as an active ingredient in pharmaceutical products. This pharmaceutical-pure tryptophan costs more than other tryptophan raw material as it undergoes significantly more rigorous manufacturing processes to safeguard purity.

Each three-capsule serving provides **1,000 mg** of certified pure tryptophan, along with the doses of lysine, niacinamide, and ginger-hops-rosemary extracts needed to protect this precious tryptophan from unwanted degradation in the body. While some people may take two to three capsules all at once before bedtime, others may choose to take one capsule on an empty stomach before each meal.

A bottle containing 90 capsules retails for \$40. If a member purchases four bottles, the price is reduced to **\$27 per bottle**.

Each three capsule serving supplies:

TryptoPure® L-Tryptophan (100% pure USP pharmaceutical-grade L-tryptophan)	1000 mg
L-Lysine (from USP pharmaceutical-grade AjiPure™ L-Lysine HCl)	250 mg
Proprietary TryptoPure® Plus Blend Perluxan® Hops Standardized Extract (<i>Humulus lupulus L.</i>) (cones), Ginger Root Standardized Extract (<i>Zingiber officinale</i>) (rhizome), and Ursole™ Rosemary Standardized Extract (<i>Rosmarinus officinalis</i>) (leaves)	285 mg
Niacinamide (Vitamin B-3)	66 mg

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To order **Optimized TryptoPure™ Plus**,
call **1-800-544-4440** or visit **www.LifeExtension.com**

Contains corn and rice.

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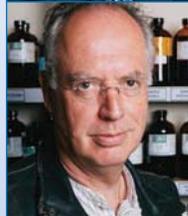
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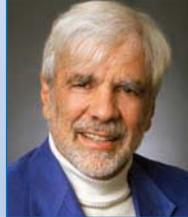
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Stephen B. Strum, MD, is a medical oncologist who has specialized in prostate cancer treatment since 1983. He is co-founder and past medical director of the Prostate Cancer Research Institute. Currently, he directs a practice for prostate cancer patients in Ashland, OR.



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Jonathan V. Wright, MD, is medical director of the Tahoma Clinic in Renton, WA. He received his MD from the University of Michigan and has taught natural biochemical medical treatments since 1983. Dr. Wright pioneered the use of bioidentical estrogens and DHEA in daily medical practice. He has authored 11 books and publishes *Nutrition and Healing*, a monthly newsletter with a worldwide circulation of more than 100,000.

ULTIMATE eye HYDRATION



Item #00893

The retail price for a box containing two 5-mL vials of **Brite Eyes III** is \$34. If a member buys four boxes, the price is reduced to **\$24 per box**.

**To order Brite Eyes III,
call 1-800-544-4440
or visit www.LifeExtension.com**

Eye support is *essential* to preventing age-related vision problems.

The older eyes get, the more susceptible they become to an array of debilitating issues that can hamper eyesight and cripple quality of life. With just a few drops of the proper eye lubricant, **eye irritation** stemming from **dryness** or **structural dysfunctions** may be alleviated.

Brite Eyes by Life Extension® provides a powerful dose of two well-established lubricants in every drop, soothing eye discomfort without irritation. **Hydroxymethylcellulose** and **glycerin** are FDA-approved for ophthalmic use and are uniquely preserved with potent **antioxidants** and **anti-glycating** agents.

The **Brite Eyes** formula is buffered in a way to make it **soothing to the eye**. The suggested use of **Brite Eyes III** is to apply 1 to 2 drops in each eye every day.

Each box of **Brite Eyes III** contains two individual vials that provide 5 mL each. The reason for putting **Brite Eyes** into individual vials is to reduce the risk of bacterial contamination. Having small vials also makes it convenient for consumers to keep **Brite Eyes** readily accessible at home, the office, in one's purse or pocket, and other places where access to a soothing eye drop is needed.

No Real Healthcare Cost Crisis



BY WILLIAM FALOON



For 31 years *Life Extension*[®] has warned that corrupt disease-care legislation combined with suffocating FDA regulation will bankrupt the United States of America.

The day of reckoning is rapidly approaching when the Federal government will be unable to subsidize the hyper-inflated healthcare prices that it created.

We have shown how inefficient and fraudulent government edicts are the cause of today's medical cost crisis—and how this catastrophe can be averted with commonsense changes to the law.¹⁻³

A Real-World Example

Life Extension[®] is on the front lines seven days a week helping people who confront medical issues, many of whom are unable to pay the artificially inflated prices brought on by failed government policies.

I recently received a call from a friend whose younger sister contracted **genital herpes** and suffered frequent painful outbreaks. Herpes is an incurable virus that **20%** of American women (ages 14-49) are infected with.⁴ It is estimated that **80%** of cases remain undiagnosed.⁵

AS WE SEE IT

I suggested that my friend's sister consider taking 500 mg a day of **valacyclovir** (Valtrex®) as this has been shown to reduce the number of herpes outbreaks⁵ and reduce the chances of spreading the virus to one's sexual partner by 47%.⁵ I recalled the retail price of Valtrex® was around **\$3 per tablet**, but thought that it might be available as a lower-priced generic.

When I called the **Life Extension Pharmacy**®, I was shocked to learn that the brand name Valtrex® had jumped to **\$7.40 per tablet** and that the **generic** cost almost this much! Since Valtrex® needs to be taken every day for prevention of outbreaks, the monthly cost for the generic comes to around **\$200**, bringing the annual price tag to **\$2,400**.

I was outraged that an off-patent drug could be priced this high and ordered our staff to find out what it really cost to produce high-quality generic Valtrex® tablets. What we discovered is beyond abhorrent. The raw material to make a **one-month supply** of generic Valtrex® is only **60 cents!** The pharmaceutical-quality manufacturing process

adds **\$1.50**, which means the total cost to make a bottle of **30** 500 mg generic Valtrex® tablets is only **\$2.10**.

Yet this same bottle retailed in pharmacies for around **\$200**—a government-protected markup of **9,523%** (or **95 times** over the cost of manufacture)!

No other business can get away with charging this much for a product whose patent expired. The only reason this happens is that Federal laws provide a virtual monopoly to protect the drug industry's outlandish profits.

When I called my friend back about the **\$200/month** price, the first thing she said is "*My sister cannot afford that.*" That means this young girl will suffer frequent herpes outbreaks and is more likely to pass this incurable virus on to others.

For those concerned that this girl may forever be denied her medicine, drug companies have lobbied Congress to create laws whereby **taxpayers** will foot the bill for many of those who cannot pay the ever-escalating costs of medical insurance.

As we have so often reported, the Federal government gives pharmaceutical companies a virtual monopoly over patented and generic drugs. The outlandish profits earned from these drugs are then used to buy lobbyists who persuade Congress to pass legislation that leaves the **taxpayer** on the hook for paying for these over-priced medicines.

What a racket! Overcharge so much for your product that most consumers cannot afford it, complain to Congress that consumers cannot afford your medicines—and then receive tax dollars to pay your monopolistic prices.

We long ago proposed that Congress change the law to permit companies to freely make generics, which would result in the price for generic Valtrex® plummeting from **\$200** a month to somewhere around **\$7** (or from **\$2,400/year** to **\$84/year**).

I titled this article "**No Real Healthcare Cost Crisis**" because it reveals how this country is being driven to economic insolvency by corrupt legislation, while pharmaceutical interests enjoy record profits.

Misguided FDA Decision Causes Price of Old Drug to Skyrocket 5,000%

In July 2009, the FDA officially announced what physicians have long known. An old drug called **colchicine** can effectively treat acute flares of gouty arthritis.

This drug has been sold as a low-cost generic since the 19th century in the US, and its origins go back 3,000 years to the ancient Greeks.

Since **colchicine** was around so long, it pre-dated the FDA itself. The FDA wanted this drug tested



AS WE SEE IT



again over the next ten years. This means that fewer dollars will be available to pay you. It also means that employers are not hiring as many people because of skyrocketing health insurance costs.

Employees fortunate enough to have healthcare insurance in 2010 will pay on average **\$4,023** in premium subsidies and out-of-pocket expenses.¹⁰ This compares with almost nothing a decade ago. According to the *Wall Street Journal*, “**Health Costs Are Crushing Small Businesses**” as medical premiums have increased **four times faster** than the rate of inflation since 2001.¹¹

If you pay for your own medical insurance, you’ve already been stung with **skyrocketing** premium rate increases, along with higher deductibles, higher co-pays and refusals to cover certain expenses.

Those without coverage face astronomical out-of-pocket costs for any serious medical issue.

Drug Makers Sharply Raised Prices in 2009

As if prescription drug costs were not already high enough, brand-name pharmaceuticals increased **9.1%** in 2009, while biotech drugs rose **11.5%**.⁸ This follows a pattern of prescription drug price increases that far outpace inflation, even as the cost of the active ingredient plummets (as can be seen in the **60-cent-a-month** raw material cost of valacyclovir).

Americans continue to pay the highest prices in the world for their prescription medications as pharmaceutical company influence in Congress guarantees monopolistic-like protection.

for safety and efficacy and offered one company a three-year exclusive if it would conduct a study. In the one-week randomized trial this company conducted, it was discovered that a shortened dosage period produced good symptom management while leading to fewer side effects than longer term use. Astute physicians may have already figured this out, but it is good that a study was done to confirm the shortened dose advantage. The question is, can we afford it?

Before the study, **colchicine** was sold by several companies for around **nine cents** a pill. Once the FDA granted the three-year exclusive, the price shot up **50-fold** to an average of **\$5** per pill.⁶

In 2007, there were 100,000 prescriptions written for **colchicine** for which Medicare-Medicaid paid about **\$1 million**.⁷ Under the new monopoly granted by the FDA (with legislative authority from Congress), taxpayer funded agencies (Medicare-Medicaid) will pay around **\$50 million** for the same drug.⁷

There are more cost-effective ways to have ascertained better dosage for this old drug, such as a one-week trial funded by the

National Institutes of Health (NIH). An NIH-funded trial would have cost the government a fraction of the **5,000% increase** it and private payers will now have to fork over for a non-patented medication that has been used for centuries in this country.

This is just a tiny example of how pharmaceutical company-sponsored legislation and misguided regulatory policies create an *artificial* healthcare cost crisis. Multiply this across the entire medical sector and you can see why radical reform is needed if an economic crisis is to be averted.

How Is This Affecting You?

If you obtain health insurance from your job, it now costs your employer nearly twice as much (\$6,700 per employee) than it did in the year 2001.⁹ You might have noticed that you now pay a greater portion of the insurance premium through your employer and that your deductibles and co-pays are substantially higher than what they used to be.

Health insurance costs to employers are projected to **double**

AS WE SEE IT



Medicare's Date with Insolvency

According to President Obama, **"We will eventually be spending more on Medicare than every other government program combined."**¹² That acknowledgment, however, did not stop passage of legislation (**Healthcare Reform Act**) that provides another Federal disease-care entitlement (and drug company subsidy) for people under age 65.

While the public is finally waking up to the colossal **\$14 trillion** official Federal debt, only a few understand that the **\$37 trillion** unfunded **Medicare** liability is our real deficit problem. Nothing else comes close to threatening our health and financial well-being.¹²

The year **2008** marked the first time that Medicare posted a deficit, meaning it spent more on disease-care outlays than the taxes it collected. By the year **2017**, the Federal government tells us that the Medicare hospital trust fund will be depleted.^{13,14} But this number is based on optimistic projections that are not happening, such as a **21% cut** to doctors that was supposed to occur in 2010 but was canceled by Congress.¹³

An increasing number of doctors are refusing to accept Medicare today because it pays so little. If a cut in physician payments is ever

implemented, the Medicare system could collapse because there will not be enough physicians to cover the aging population.

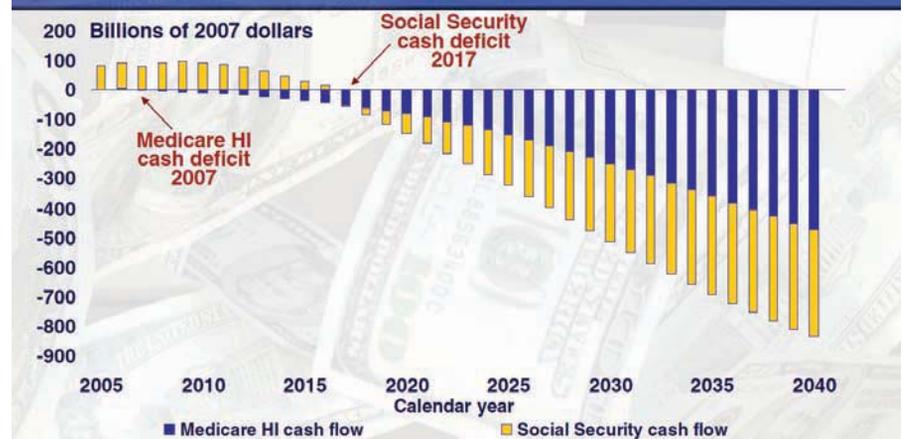
The chart on this page was created in 2007 and reveals the stunning magnitude of the Medicare and Social Security deficits. What's really scary is that this does not factor in the **Medicare Prescription Drug Act** or **Healthcare Reform Act** passed by Congress over the past few years that will add trillions of additional deficit dollars to this chart.

The Federal government pretends it can raise taxes enough on wealthy individuals to offset the staggering liabilities it has incurred by promising more sick-care coverage than what Medicare is already on the hook for. The notion that taxes can be raised on a tiny percentage of the population to pay the gargantuan Medicare liability is a mathematical impossibility and represents the largest Ponzi scheme in the history of mankind.

Medicare Rife with Fraud, Waste, and Ineptitude

Life Extension (and other media sources) has reported egregious examples of how Medicare expenditures are squandered. In some cases, crooks set up phony clinics, collect millions from Medicare for services never rendered, and then move on to another location before Medicare figures out it is paying bogus claims.

Social Security and Medicare's Hospital Insurance Trust Funds Face Cash Deficits



Source: GAO analysis of data from the Office of the Chief Actuary, Social Security Administration and Office of the Actuary, Centers for Medicare and Medicaid Services.
Note: Projections based on the intermediate assumptions of the 2007 Trustees' Reports. The CPI is used to adjust from current to constant dollars.

The real money, however, involves lobbying Congress to force Medicare to grossly overpay for the particular service, device, or pharmaceutical a company happens to sell.

One of the fastest growing areas of the disease-care industry is “home healthcare.” It aims to save billions by avoiding costly hospitalizations. Hospitals, of course, learned how to bilk Medicare long ago, and home healthcare providers are no less proficient.

An investigative report by the *Wall Street Journal* uncovered a ridiculous program in which Medicare paid a **\$2,200 bonus** once a company made ten at-home visits to a particular patient.¹⁵ With this kind of incentive, home healthcare companies jumped through hoops to hit the ten-visit mark, even threatening employees with no pay if they failed to figure a way to bill Medicare ten at-home visits for every patient. Remember, for each patient that Medicare paid for ten consecutive visits, an absurd **\$2,200** taxpayer-funded bonus was kicked back to the home healthcare provider PLUS the cost Medicare had to pay for each at-home visit.

Those who successfully lobby Congress receive windfall profits from Medicare, while those who don't are so short-changed that many are dropping out of the system. It's somewhat analogous to the former Soviet Union, where companies favored by the entrenched Communist Party received special status, while those who lacked political connections often could not pay their employees because no money came from Moscow.

One home healthcare company that receives 90% of its revenue payments from Medicare enjoyed revenues of **\$1.5 billion** in 2009,

compared to only **\$88 million** in the year 2000. Its stock has gone from less than **\$1** in 2000 to **\$60** in 2009.¹⁵

Clearly, the way to make money in today's economy is to find a way to guarantee that the **Federal government** will pay you inflated prices so you don't have to worry about competing in the free market for consumer dollars.

A Trip to Mexico with My Son

I try to spend time with my children and wound up in Mexico for a few days last summer, where my 13-year-old son was bitten by an insect. He developed a painful reaction that required immediate attention. Fortunately, in Mexico, you don't need a prescription to buy most drugs. I was able to walk into a pharmacy and purchase a tube of *triamcinolone* cream at virtually no cost. Within a few hours my son was cured.

In the United States, it is not so easy or affordable. For some ludicrous reason, the FDA mandates

that one obtain a doctor's prescription for topically-applied *triamcinolone* cream. If this insect bite had occurred in the US, I would have had to find an urgent care medical facility that was open, pay the doctor over **\$100**, and then take the prescription to a pharmacy and wait for it to be filled. My son would have spent many additional hours in pain and I would have spent a lot more money and time.

If I could not locate an urgent care center, a hospital emergency room visit would be the only alternative. The cost to me and my insurance company would have been over **\$500** for an ER visit as opposed to spending only a few dollars for a tube of triamcinolone cream at a Mexican pharmacy with no prescription.

The Mexican pharmacy, by the way, was overwhelmed with American tourists who were behaving like kids in a candy store. The shelves were stocked with just about every popular American prescription drug, but no prescription was required. Prices for most drugs were a fraction of what they cost in the US.



Chase Faloan was bitten by an insect and suffered an acute inflammatory reaction to his entire back on May 27, 2010. Below is the tube of triamcinolone cream I purchased for a few dollars at a Mexican pharmacy (without a prescription) that cured him of the pain, redness and swelling he suffered. Had this occurred in the United States, this would have been an expensive and time-consuming process.



AS WE SEE IT



Prescription Status for Many Drugs Should Be Abolished

There was a time when the public was so ignorant about medical issues that a doctor's prescription was required for most drugs to be safely and effectively used.

That has changed. An enlightened individual can use the Internet to learn about drugs that lower blood pressure, glucose, and lipids, along with the drug's side effects. At-home blood pressure devices are more effective in monitoring real-world blood pressure than periodic visits to a doctor's office. An enlightened patient can precisely individualize dosing of anti-hypertensive medications to bring their blood pressure to optimal levels (below 115/75 mm Hg in most people).

Enlightened individuals, with the help of trained health advisors, can also interpret their own

blood test results and choose medications and hormones that can normalize abnormalities that hurried doctors too often overlook. Periodic audits of one's self-prescribing regimen by a physician would be highly recommended.

There are drugs that require close physician supervision and would remain on prescription-only status.

Naysayers who argue that people will take inappropriate doses or the wrong drug ignore the epidemic of adverse reactions that occur when patients blindly follow physician's prescribing orders. Look at how many prescriptions doctors wrote for Avandia® long after studies showed sharply higher heart attack and stroke risks.^{16,17}

If doctors were relieved of having to see patients for simple issues (like elevated LDL and triglycerides) they could focus more time on patients who need intensive hands-on treatment.

Accepting Harsh Realities

Medicare's date with insolvency is a mathematical near-certainty.

There are many reasons for this, but corrupt legislation that precludes a medical free market from developing, along with bureaucratic overregulation, ensures that disease-care expenditures will cripple this nation.

As we proposed in detail in the August 2009 issue of *Life Extension Magazine*, the cost of prescription drugs would plummet if the FDA did not have such stringent approval requirements for generics.

As proposed today, if patients were empowered to make their own decisions on personal health issues, medical costs would plunge as wasteful visits to doctors' offices could be reduced.

I suspect most of you reading this recognize that there reaches a point where the words "we

cannot afford it” become a harsh reality. Whether one agrees with the solutions suggested in this editorial or not, the simple fact is that Medicare, private insurance, and the private sector cannot afford the costs of today’s broken sick-care system.

For the edification of new members, please know that we at *Life Extension* have been sounding the alarm bells about the catastrophic consequences of artificially inflated disease-care costs for the past four decades.

The Federal government has responded by launching relentless criminal investigations against me (and others) at the behest of pharmaceutical interests, who don’t want you to know that Americans have been forced to pay **\$200** for a bottle of valacyclovir (Valtrex®) that costs only **\$2.10** to make!

For longer life,



William Faloon

P.S. - Generic drug prices fluctuate widely. When more manufacturers obtain FDA approval, prices sometimes drop. When manufacturers cease making certain generics, prices can sharply increase. In January **2011**, the *Life Extension Pharmacy* was able to offer 30 500 mg tablets of **valacyclovir** for **\$103**, though this price is subject to being increased at any time. When I called a local **Walgreens** the very same day, they quoted **\$199.99** for the same amount of valacyclovir.

From an efficacy standpoint, valacyclovir provides relatively mediocre results in those suffering acute herpes or shingles outbreaks.

For those seeking natural and more innovative approaches to controlled herpes and shingles attacks, log on to www.lef.org/herpes

References

1. Faloon W. How much more FDA abuse can Americans tolerate? *Life Extension Magazine*®. 2010 Mar;16(3):12-13.
2. Faloon W. Startling findings about vitamin D levels in Life Extension® members. *Life Extension Magazine*®. 2010 Jan;16(1):7-14.
3. Faloon W. Why American healthcare is headed for collapse. *Life Extension Magazine*®. 2009 Sep;15(9):7-12.
4. Available at: <http://www.cdc.gov/std/herpes/stdfact-herpes.htm#common>. Accessed July 7, 2010.
5. Lebrun-Vignes B, Bouzamondo A, Dupuy A, Guillaume JC, Lechat P, Chosidow O. A meta-analysis to assess the efficacy of oral antiviral treatment to prevent genital herpes outbreaks. *J Am Acad Dermatol*. 2007 Aug;57(2):238-46.
6. Kesselheim AS, Solomon DH. Incentives for drug development--the curious case of colchicine. *N Engl J Med*. 2010 Jun 3;362(22):2045-7.
7. Available at: http://www.urlpharma.com/url_unapproved_drug_NEJM.aspx. Accessed July, 2010.
8. Available at: <http://online.wsj.com/article/SB10001424052748703757504575194432322875278.html>. Accessed November 19, 2010.
9. Available at: http://www.commonwealth-fund.org/usr_doc/Collins_whitheremployer-basedhltns_1059.pdf. Accessed November 24, 2010.
10. Available at: <http://online.wsj.com/article/SB10001424052748703790404574471290259603238.html>. Accessed November 24, 2010.
11. Available at: <http://online.wsj.com/article/SB10001424052748703298004574455321821703370.html>. Accessed November 24, 2010.
12. Available at: <http://online.wsj.com/article/SB10001424052970203440104574404893691325078.html>. Accessed November 24, 2010.
13. Available at: <http://online.wsj.com/article/SB124212734686110365.html>. Accessed November 24, 2010.
14. Available at: <http://online.wsj.com/article/SB10001424052970204884404574362543878647858.html>. Accessed November 24, 2010.
15. Available at: <http://online.wsj.com/article/SB10001424052748703625304575116040870004462.html>. Accessed December 2, 2010.
16. Available at: <http://diabetes.webmd.com/news/20100628/new-study-avandia-riskier-than-actos>. Accessed November 24, 2010.
17. Available at: <http://prescriptions.blogs.nytimes.com/2010/07/14/blogging-the-f-da-panel-on-avandia/>. Accessed November 24, 2010.



FOR HEALTHY BLADDER FUNCTION

Water-Soluble Pumpkin Seed EXTRACT

Aging individuals frequently encounter a *weakening* of the **bladder** and its **sphincter muscle** that controls the release of **urine**.

Laboratory and human clinical studies demonstrate that ingestion of **water-soluble pumpkin seed extract** (with soy isoflavones) can significantly improve the *structural* support of the bladder and the *function* of the sphincter muscle.

The data supporting the value of **water-soluble pumpkin seed extract** (with soy isoflavones) is particularly strong in studies performed in **women**. A clinical study of aging **men** also demonstrated positive results.

HOW TO USE PUMPKIN SEED-SOY EXTRACTS

The pumpkin seed has a long history of use in helping to maintain healthy bladder function. Japanese scientists have patented a method to obtain the *water-soluble* constituents of the pumpkin seed, which are absorbed far more efficiently into the bloodstream.

These *water-soluble* pumpkin seed extracts appear to be the active constituents to help with the **urinary discomforts** endured by so many maturing women and men.

Clinical studies on women and men have used capsules containing **262 mg** of *water-soluble* **pumpkin seed extract** and **50 mg** of **soy isoflavones** taken two times each day. The results from human studies show the maximum benefits occurring after six to eight weeks of continued use.

WATER-SOLUBLE PUMPKIN SEED AND SOY EXTRACT

Based on the remarkable and consistent clinical results, **Life Extension** is making the identical Japanese formula used in the human studies available to its members for the first time.

To order **Water-Soluble Pumpkin Seed Extract with Soy Isoflavones** (or Water-Soluble Pumpkin Seed Extract standalone) call **1-800-544-4440** or visit www.LifeExtension.com



Go Less is a trademark of Frutarom Netherlands BV.



A bottle containing 60 **Water-Soluble Pumpkin Seed Extract (with Soy Isoflavones)** capsules retails for \$22. If a member buys four bottles, the price is reduced to only **\$15 per bottle**. Each capsule provides 262 mg of water-soluble pumpkin seed extract and 50 mg of soy isoflavones. **Item # 01210** Contains soybeans, corn, and rice.

For those who are taking other soy supplements, or are allergic to soy, **Water-Soluble Pumpkin Seed Extract Standalone** capsules are available as well. A bottle containing **60** 262 mg capsules retails for \$20. If a member buys four bottles, the price is reduced to only **\$13.50 per bottle**. **Item # 01209** Contains corn and rice.



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- I** **NDIVIDUAL NEEDS** – While chain pharmacies deal in volume, Life Extension Pharmacy® deals in *value*. Our pharmacists spend quality one-on-one time with customers to answer any and all questions.
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- E** **XCEPTIONAL KNOWLEDGE** – In addition to offering safety and prescription advice, our pharmacists are trained to *think independently*, and will explain how *vitamins, minerals, hormones, and natural nutrients* may be used to work synergistically with your drugs to help you achieve optimal health.

* Prices as of January 1, 2011. Prices subject to change.

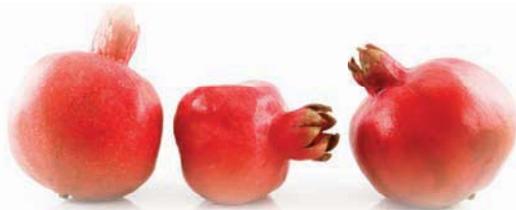
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Life Extension Pharmacy, Inc. is a licensed pharmacy based in Fort Lauderdale, FL. A portion of prescription proceeds goes to the Life Extension Foundation, a nonprofit organization.



Few nutritional sources have gained as much scientific validation as **pomegranate**.¹ The vast majority of research has focused on extracts from the *fruit*. Only recently have scientists identified the synergistic action of compounds specific to other parts of the pomegranate—most notably its **seeds** and **flowers**.

FULL-SPECTRUM POMEGRANATE FORMULA

The Next-Generation Pomegranate Formula

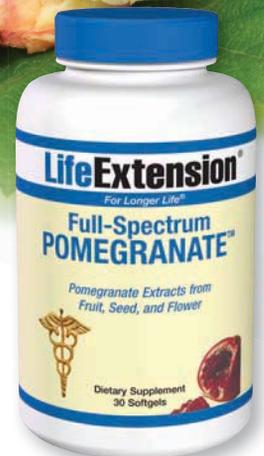
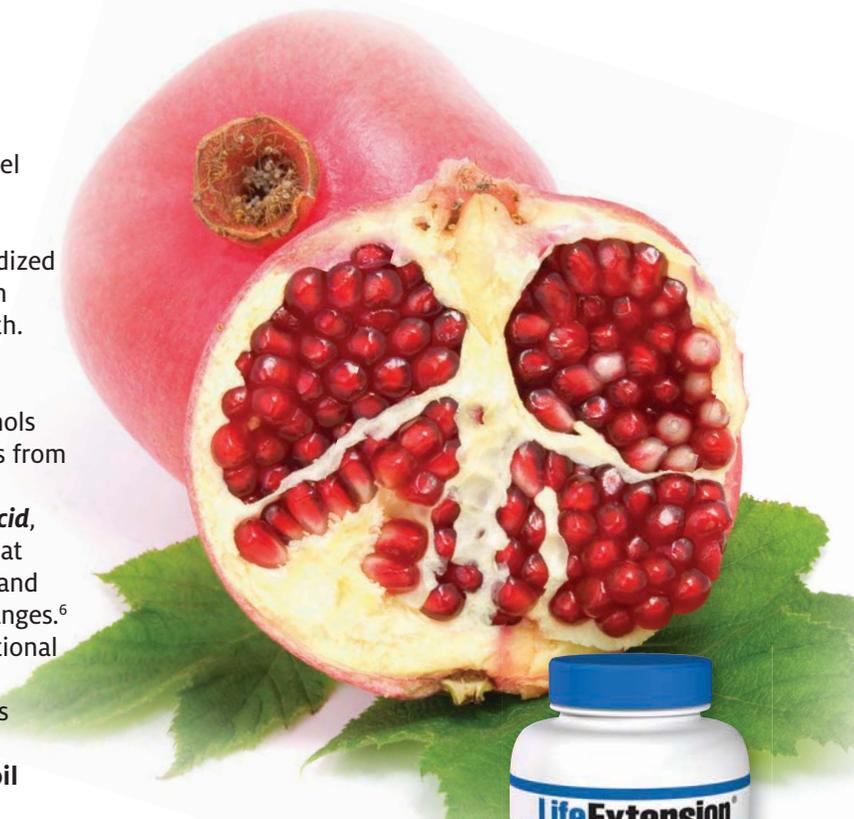
Life Extension® introduces an advanced, cutting-edge pomegranate formula that brings together novel phytonutrients for the first time in a unique, high-potency blend.

Full-Spectrum Pomegranate™ combines standardized extracts from the **whole fruit and flower**, along with pomegranate **seed oil**, to support system-wide health.

In addition to the highly absorbable antioxidant powerhouses found in pomegranate fruit,²⁻⁴ **Full-Spectrum Pomegranate**™ *augments* these polyphenols with newly discovered biologically *active* compounds from other parts of the pomegranate plant.

These little-known nutrients include: **punicanolic acid**, a member of the **triterpene** family of essential oils that provides cellular support to help with inflammation,⁵ and **pomegranate**, to combat age-related metabolic changes.⁶

This superior formula supplies the **complete** nutritional profile of the pomegranate plant. Just one softgel of **Full-Spectrum Pomegranate**™ provides polyphenols equivalent to 12.3 ounces of pomegranate juice (or 24 pomegranates) *plus* a proprietary blend of **seed oil** and **flower extract**.



Item # 01423

One softgel of Full-Spectrum Pomegranate™ contains:

- POMELLA® Pomegranate** **400 mg**
(*Punica granatum*) Extract (fruit)
[std. to 30% punicalagins (120 mg)]
- PomComplete™ Pomegranate** **137.5 mg**
(*Punica granatum*) Blend [flower extract and
seed oil (standardized to 22% (30 mg) punicic acid)]

Full-Spectrum Pomegranate™

A bottle containing 30 softgels of **Full-Spectrum Pomegranate**™ retails for \$24. If a member buys four bottles, the price is reduced to just **\$15.75** per bottle.

TO ORDER Full-Spectrum Pomegranate™ call 1-800-544-4440 or visit www.LifeExtension.com

References

1. *J Ethnopharmacol.* 2007 Jan 19;109(2):177-206.
2. *Eur J Nutr.* 2003 Jan;42(1):18-28.
3. *J Inflamm (Lond).* 2009;6:1.
4. *Altern Med Rev.* 2008 Jun;13(2):128-44.
5. *Chem Pharm Bull (Tokyo).* 2008 Nov;56(11):1628-31.
6. *Fitoterapia.* 2006 Dec;77(7-8):534-7.

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Contains soybeans.

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IN THE NEWS

Vitamin C Could Improve Sepsis Outcome

Research conducted by the University of Western Ontario has uncovered a beneficial role for vitamin C in sepsis, an immune system reaction to bacterial infection that results in the formation of blood clots, impaired blood flow, and organ failure. The findings were reported in the November 2010 issue of the journal *Intensive Care Medicine*.*

Capillaries that have been blocked by blood clots, caused by oxidative stress and activation of the blood clotting pathway, are the cause of multiple organ failure and death in septic patients.

In experiments with mice, Karyl Tyml and colleagues demonstrated that vitamin C administered intravenously early in the development of sepsis prevents capillary blockage, as well as reverses the condition by restoring blood flow if administered later. Reversal of blood flow blockage by vitamin C appeared to be dependent upon the production of nitric oxide, which dislodges platelets from the capillary wall.

Editor's note: Dr. Tyml noted that, "Vitamin C is cheap and safe. Previous studies have shown that it can be injected intravenously into patients with no side effects."

—D. Dye

**Intensive Care Med.* 2010 Nov;36(11):1928-34.

Urgent alert: The FDA has just notified small pharmacies that they will no longer be allowed to manufacture or distribute injectable vitamin C—despite its remarkable power to heal conditions that conventional medicine can't touch. Life Extension will aggressively investigate the FDA's outrageous decision and enlighten health freedom activists how they can help to reverse it.

Longer Life Associated with Higher Alpha Carotene Levels

An article appearing in the *Archives of Internal Medicine* reports the discovery of researchers at the Centers for Disease Control and Prevention of an association between higher serum levels of the carotenoid alpha-carotene and a lower risk of dying over a 13.9 year average period.*

Chaoyang Li, MD, PhD, and colleagues evaluated data from 15,318 adults who enrolled in the Third National Health and Nutrition Examination Survey Follow-up Study between 1988 and 1994. The participants were followed through 2006, during which the causes of deaths that occurred were recorded.

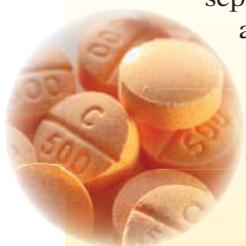
Among participants whose alpha-carotene levels were highest at 9 or more micrograms per deciliter, there was a 39% lower adjusted risk of dying from any cause compared with those whose levels were lowest.

"These findings support increasing fruit and vegetable consumption as a means of preventing premature death," the authors conclude.

Editor's note: To obtain high levels of alpha carotene you should include the following in your diet: pumpkin, carrots, sweet potatoes, cantaloupe, spinach, broccoli, green beans, barley, oats, and plant-based foods.

—D. Dye

* *Arch Int Med.* 2010 Nov 22.



Calcium, Vitamin C Supplements May Help Protect Against Diabetes

In an article published in *Diabetes Care*, Honglei Chen, MD, PhD, and colleagues report that individuals who regularly consume calcium or vitamin C supplements have a lower risk of developing diabetes than people who don't consume such supplements.*

Dr. Chen and associates evaluated data from 232,007 participants in the NIH-AARP Study. Questionnaires administered upon enrollment between 1995 and 1996 provided information concerning multivitamin supplement use as well as individual vitamin and mineral supplements. Multivitamins were categorized as stress-tab, Theragran-M® or One-a-Day® types. Follow-up questionnaire responses revealed 14,130 cases of diabetes diagnosed after the year 2000.

A protective effect for multivitamin use against diabetes was observed; however, its significance disappeared after adjusting for the use of individual supplements. When individual supplements were examined, participants who used vitamin C daily had a 9% lower risk of developing diabetes, and for those who used calcium, the risk was 15% lower.

Editor's note: The authors write that, "It is likely that multivitamins at their current composition cannot reduce the risk of diabetes. Most multivitamins contain lower amounts of single antioxidants than individual vitamin supplements and thus might not be sufficient to be biologically effective."

—D. Dye

* *Diabetes Care*. 2010 Oct 26.

Garlic Could Help Reduce Osteoarthritis of the Hip

An article published in *BMC Musculoskeletal Disorders* reports the discovery of Frances M. K. Williams, PhD, and her associates of a protective effect of allium vegetables, which include garlic, leeks, and onions, against osteoarthritis of the hip.*

The study included 1,000 healthy female twins between the ages of 46 to 77, many of whom had no symptoms of arthritis. Dietary questionnaire responses provided information on the participants' intake of 131 foods. Radiographic evaluation assessed the presence of early osteoarthritis in the hip, knee, and spine.

Among women whose fruit and vegetable intake was high, there was a lower adjusted risk of hip osteoarthritis compared to those whose intake was low, with the greatest protective benefit observed for non-citrus fruit and allium vegetables. Further research in cultured human cartilage cells determined that diallyl disulphide, a compound that occurs in garlic, limited the expression of cartilage-damaging enzymes.

Editor's note: Dr. Williams remarked that, "While we don't yet know if eating garlic will lead to high levels of this component in the joint, these findings may point the way towards future treatments and prevention of hip osteoarthritis."

—D. Dye

* *BMC Musculoskeletal Disord*. 2010 Dec 8;11(1):280.

Greater Omega-3 Fatty Acid Intake Associated with Protection Against Advanced Age-Related Macular Degeneration

Researchers from Johns Hopkins University report in the journal *Ophthalmology* their finding of a protective effect for fish that contain abundant amounts of the omega-3 fatty acids EPA and DHA against the development of advanced age-related macular degeneration.*

Sheila K. West, PhD, and her associates evaluated data from 2,391 participants in the Salisbury Eye Evaluation (SEE) Study. Dietary questionnaire responses were analyzed for the type and amount of fish and shellfish consumed weekly.

Early macular degeneration was diagnosed in 227 subjects, 153 had intermediate-stage disease, and advanced macular degeneration was observed in 68 participants. Although there did not appear to be a significant protective effect for fish and shellfish in general, those whose intake of high omega-3 fatty acid fish was greatest at one or more servings per week had a 60% lower risk of advanced disease compared to those who consumed less than one serving.

Editor's note: The finding adds evidence to that of other research, including the Age-Related Eye Disease Study (AREDS), concerning the benefit of nutritional components against macular degeneration. High amounts of omega-3s have been measured in the retina of the eye and may be essential to eye health.

—D. Dye

* *Ophthalmol*. 2010 Dec;177(12):2395-401.





Pomegranate May Help Prevent Prostate Cancer Metastasis

The American Society for Cell Biology's 50th Annual Meeting was the site of a presentation concerning the identification of compounds in pomegranate that protect against prostate cancer metastasis.*

In 2006, researchers observed a reduction in the increase of PSA levels in men with prostate cancer who consumed 8 ounces of pomegranate juice daily. Researchers involved in the current study, led by Manuela Martins-Green, PhD, had previously determined that pomegranate juice concentrate increased cell death in prostate tumor cell lines that were resistant to testosterone (which is associated with metastasis), as well as increased cell adhesion and decreased migration in cells that survived.

The team identified phenylpropanoids, hydrobenzoic acids, flavones, and conjugated fatty acids as compounds responsible for the effects in the cancer cells that were not destroyed. In addition to inhibiting the growth of the tumor cell lines, the compounds inhibited their migration and attraction to a signal that promotes metastasis to the bone.

Editor's note: Dr. Martins-Green and her associates noted, "Expect that further testing for dose-dependent effects, side effects, etc., should allow usage of these components as a more effective treatment for metastatic prostate cancer than simply drinking the juice."

—D. Dye

* *American Society for Cell Biology's 50th Annual Meeting*. December 12, 2010.

Low Dose Aspirin Could Help Protect Against Death from Cancer

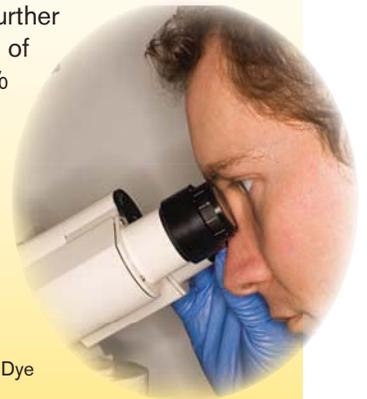
An article published in *The Lancet* reveals a protective effect of low dose aspirin against the risk of dying from a number of cancers. "These findings provide the first proof in man that aspirin reduces deaths due to several common cancers," the authors announce.*

Peter Rothwell and his colleagues pooled data from 8 randomized trials comparing the use of aspirin to no aspirin or another blood thinning agent to prevent vascular disease. Those who received aspirin had a 21% lower risk of dying from cancer over the treatment periods compared to those who did not receive the drug. Further analysis found a significant benefit after 5 years of follow-up, with aspirin use associated with a 34% lower risk of dying from all cancers and a 54% lower risk of dying from gastrointestinal cancer. Doses of aspirin higher than 75 milligrams were not associated with increased protection.

Editor's note: "Perhaps the most important finding for the longer-term is the proof of principle that cancers can be prevented by simple compounds like aspirin and that 'chemoprevention' is therefore a realistic goal for future research with other compounds," Dr. Rothwell stated.

—D. Dye

* *Lancet*. 2010 Dec 7.



Hot Flashes Reduced by Folic Acid

A trial described in the journal *Gynecological Endocrinology* found that the B vitamin folic acid significantly reduced the number and intensity of hot flashes experienced by a group of menopausal women.*

Brain release of the hormone norepinephrine and its metabolite MHPG has been found to be higher in women who experience hot flashes than in those who do not. In the current research, 46 women suffering from hot flashes were divided to receive 5 milligrams folic acid or a placebo daily for four weeks.

Nine of the women who received folic acid experienced complete elimination of hot flashes, and six had moderate improvement. Only one woman in the placebo group experienced a complete

response. Participants who received folic acid also experienced a reduction in plasma MHPG. A review subsequent to the treatment period found that hot flashes returned in all subjects who had experienced improvement when supplementing with folic acid.

Editor's note: While hormone replacement therapy is helpful in alleviating hot flashes, there are some women whose medical conditions preclude its safe usage.

—D. Dye

* *Gynecol Endocrinol*. 2010 Sep;26(9):658-62.



Greater Branched-Chain Amino Acid Intake Associated with Lower Likelihood of Being Overweight

In the *Journal of Nutrition*, an international team of researchers report an association between an increased intake of the branched-chain amino acids (BCAAs) leucine, isoleucine, and valine and a reduced risk of being overweight or obese.*

The team analyzed data from 4,429 men and women enrolled in the INTERMAP Study, a cross-sectional investigation of individuals residing in Japan, China, the UK, and the US. Increased consumption of branched-chain amino acids was associated with a lower adjusted risk of being overweight. For those whose intake was among the top 25% of participants, a 30% lower risk of being overweight was observed in comparison with those whose intake was lowest. Obesity among British and American subjects also had an inverse association with branched-chain amino acid intake, with a 25% lower risk occurring among participants whose BCAA intake was highest compared to those whose intake was among the lowest fourth.

Editor's note: In their discussion of possible protective mechanisms for the amino acids against weight gain, the authors write that leucine may increase energy expenditure, stimulate the hormone leptin, and possibly increase the activity of mTOR, which, like leptin, regulates energy balance. The branched-chain amino acids may also help reduce impaired glucose tolerance, which contributes to obesity.

—D. Dye

* *J Nutr.* 2010 Dec 14.

Life Extension® Meets FITCAMP Malibu

"100 is the new 50, and at FITCAMP we teach what it takes to make that a reality. Your body has an intelligence, and it's my job to raise your Body Intelligence IQ."

—Greta Blackburn

Greta Blackburn, co-author of *The Immortality Edge: Realize the Secrets of Your Telomeres for a Longer, Healthier Life* (2010), founded FITCAMP nearly two decades ago. It has since matured into a pinnacle event offering the latest breakthroughs in fitness, sports, and anti-aging technology. By combining information exchange with one-on-one physical training sessions and a daily schedule packed with everything from Pilates, taught by guru Mari Winsor, to Hell Hikes and hooping, campers learn specific skill sets to take home and incorporate into their daily lives.

FITCAMP seminars feature pioneers like Mike Fossel, MD, PhD, and top Life Extension experts.



Testimonials

"I would highly recommend Greta's FITCAMP to anyone who is ready to take the next step toward wellness and lifestyle transformation. The facilities, food, and presenters were world-class. The opportunity to associate with so many vibrant, open-minded individuals, and the endless supply of love and support from other campers, was priceless."

—Craig Phillips, age 60

"Greta B's FITCAMP is challenging, fun, and rewarding. It helped me prepare for my second 76 years to be healthy, fit, and enjoyable. All the presenters are cutting-edge, knowledgeable, and motivating. I came home with a wealth of new insights for taking my life to the next level."

—Gabrielle Guhl, age 76

**A FITCAMP is scheduled for early spring in South Florida.
For more information call 800-727-2888 or visit www.fitcamp.com**



Craig Phillips, 60-year-old, professional skier.



Gabrielle Guhl, 76-year-old, on the ropes course.

BOOK REVIEW



Disconnect
 The Truth About Cell Phone Radiation,
 What the Industry Has Done to Hide It,
 and How to Protect Your Family

By Devra Davis

The old adage “Where there’s smoke, there’s fire” may never be more true than when it comes to the radiation emitted from cell phones. For too many years, Big Cellular has brushed off claims that this radiation could be dangerous and labeled those who point to the alarming science supporting such claims as outside the mainstream. In *Disconnect*, National Book Award Finalist Devra Davis tackles this issue head on, taking readers on a tour de force to the darkest edges of the trillion-dollar cell phone industry.

Did you know that most cell phones come with a notice that says “do not hold closer than one inch from your body?” And did you know that insurance companies refuse to provide coverage to cell phone companies and operators in case of claims of health damage from long-term operation of their device?

Davis, a PhD, MPH, visiting professor at Harvard University and Georgetown University, didn’t know the above information either, but when she learned it, the new knowledge set her off on a fact-finding mission that became this book. In the book’s foreword, David Servan-Schreiber, MD, PhD states, “I myself, a physician, a scientist, a patient being followed for a malignant brain tumor for the past eighteen years...used a cell phone like everybody else. I was convinced, as well, that such technology could not possibly be released on the enormous scale that it has reached today without governments having demanded proof that there could

be no health hazards from the widespread use of a new type of microwave radiation that practically everyone would be intensely exposed to for decades.”

In short, Dr. Davis found out that her assumptions weren’t just wrong, they were dangerously wrong. In her search for the truth, she encounters several key players, including Om P. Gandhi, an expert on how cell phone radiation penetrates the human brain. Gandhi was once a consultant to major cell phone carriers but now he refuses to work with them. She also talks to Franz Adlkofer, the leader of a multi-lab study that conclusively showed that human DNA is unraveled by cell phone microwave radiation.

While this information is disturbing, you’ll find that the lengths companies have gone to cover it up is even more so. In fact, the word is starting to get out, as more than a dozen countries advise restricting the use of cell phones by children and limiting direct exposures to the bodies and heads of adults. Davis provides a list of useful tips to help readers avoid unnecessary exposure in the back of the book. However, if you want the complete, compelling, and potentially life-saving tale of how cell phone radiation came to be ubiquitous in our lives, you’ll have to start on page one.

Editor’s note: Life Extension has long recommended that people use the speaker option on their cell phone and keep the phone about one foot away from one’s body when talking. This reduces the electro-magnetic field exposure to virtually zero.

Take a Bite Out of your Appetite

People who struggle with weight loss often point to several “Achilles’ heels” that **sabotage their efforts** to keep off the pounds: *eating between meals, grazing at night, and a constant desire to snack*, are among the most common.

The *fantastic news* is that a proprietary extract of **saffron**, called **Satiereal®**, is *clinically proven* to deal with nearly all of the above issues. In fact, women involved in **Satiereal®** studies experienced the following **amazing results**¹⁻⁶:

- **100% reduction in the desire to snack**
- **50% fewer instances of eating between meals**
- **Less hunger**
- **Moderate weight loss**
- **More energy**
- **Better mood**

Say goodbye to “kitchen raids” and say hello to “weight control” with **Optimized Saffron with Satiereal®**.

A bottle containing 60 vegetarian capsules of **Optimized Saffron with Satiereal®** retails for \$36. If a member buys four bottles, the cost is just **\$24 per bottle**.

References

1. *Food in Medieval Times*. Greenwood Publishing; 2004.
2. *Saffron (Crocus sativus) Production and Processing*. Science Publishers; 2006.
3. *Hum Reprod*. 1997 Jun;12(6):1142-51.
4. *BMC Complement Altern Med*. 2004 Sep 2;4:12.
5. *J Ethnopharmacol*. 2005 Feb 28;97(2):281-4.
6. *Prog Neuropsychopharmacol Biol Psychiatry*. 2007 Mar 30;31(2):439-42.



To order
Optimized Saffron with Satiereal®,
call **1-800-544-4440**
or visit **www.LifeExtension.com**

Satiereal® is a registered trademark of INORÉAL.
International patents pending.

The fact that Satiereal® induced significant reductions (100%) in the desire to snack, but with only moderate weight loss, is further support for the multi-pronged approach needed to effectively manage weight that has long been espoused by Life Extension®.

This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

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.

Discover the European "Secret" to **Youthful, Healthy Legs**

Combat Unsightly Veins with This High-Potency Extract

30 YEARS OF CLINICAL EVIDENCE BRINGS LONG-AWAITED RELIEF

It is estimated that *half* of all women in the United States will develop unsightly veins by age 50.¹ While dermatologists often suggest surgery to correct this "age-related" issue, European women have enjoyed access to a **natural solution for 30 years!**

Life Extension® offers American women the same extract *without* a prescription. No more compression bandages or stockings. Instead, experience the same beautifying effects European women have been raving about for three decades—**naturally!**

Derived from the sweet orange, **European Leg Solution featuring Certified Diosmin 95** contains a plant-based nutrient called *diosmin* and is available in a vegetarian tablet.

MICRONIZED FOR GREATER EFFECTIVENESS

In order to derive any significant benefit, bioactive diosmin extract **must be able to reach veins directly.**

Life Extension®'s proprietary extract undergoes a complex, highly refined process called **micronization**. It yields the only *form* of diosmin clinically proven to support healthy vascular function in the legs.^{1,2}

This scientifically controlled, multi-phase technique *radically reduces* the size of the standard diosmin particles contained in each tablet, from **37 microns** to less than **2 microns**. The result is an optimally bioavailable standardized extract. This ensures rapid, efficient delivery of diosmin to the bloodstream, enabling enhanced *penetration* of the delicate inner lining of the veins.

As with so many "age-related" conditions, *inflammation*³ is the chief culprit behind the presence of unsightly veins. Inflammatory responses are *precipitated* by the interaction between white blood cells and the endothelial lining.

Life Extension's **European Leg Solution featuring Certified Diosmin 95** offers effective protection **by disrupting this inflammatory response.**

THE PREFERRED TREATMENT AMONG EUROPEAN WOMEN FOR BEAUTIFUL LEGS IS HERE

Life Extension's **European Leg Solution featuring Certified Diosmin 95** provides the same pharmaceutical grade extract used by millions throughout Europe. The retail price for a bottle containing 30 600 mg vegetarian tablets is \$20. If a member buys four bottles, the cost is only **\$13.50** per bottle.

Item #01042



Six Ways Life Extension's European Leg Solution featuring Certified Diosmin 95 Works for You

1. Maintains healthy blood flow through your capillaries—the most *fragile* of your blood vessels.
2. Maintains tone and elasticity of your veins—the key to sustained vascular health.
3. Eases the effects of circulating cytokines that promote inflammation.
4. Safeguards collagen and elastin against oxidative damage.
5. Enjoys an outstanding safety record.
6. Produces results in just 1–2 weeks, with a single **600 mg** tablet taken each morning.²

*Product not for sale outside the United States.

To order European Leg Solution featuring Certified Diosmin 95,
call 1-800-544-4440 or visit www.LifeExtension.com

References: 1. <http://www.womenshealth.gov/faq/varicose-spider-veins.cfm>. 2. *Angiology*. 2003 Jul-Aug;54 Suppl 1:533-44.
3. *Eur J Vasc Endovasc Surg* 2004;28:484-93.

Contains corn.

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.



COMBAT INFLAMMATION

with ARTHRO-IMMUNE JOINT SUPPORT

Painful swelling or stiffness is often the result of damaged connective tissue and inflamed joints.

Life Extension®'s Arthro-Immune Joint Support has been formulated with two powerful plant extracts that can help those suffering from inflammation.

Andrographis paniculata has been recognized for its beneficial effect on inflammation.¹ It was shown to provide significant improvement that resulted in **fewer tender and/or swollen joints.**² **Arthro-Immune Joint Support** contains the superior **PARACTIN® Andrographis extract**, which has been used in clinical, animal and *in vitro* studies.

Curcumin, a natural compound known for its ability to reduce inflammation and as an antioxidant, was shown in a yet unpublished study to have a beneficial effect on inflammation.³ The highly bioavailable **BCM-95® Bio-Curcumin®** is the second component of **Arthro-Immune Joint Support.**

Just one capsule a day provides a potent serving of **PARACTIN®** and **BCM-95® Bio-Curcumin®**. A bottle of 60 vegetarian capsules retails for \$30. When a member buys four bottles, the price is reduced to only **\$19.50 per bottle.**

One capsule provides:

BCM-95® Bio-Curcumin® Extract 250 mg
PARACTIN® Andrographis Extract 150 mg

References:

1. *Int Immunopharmacol.* 2009 Mar;9(3):313-8.
2. *Clin Rheumatol.* 2009 Aug;28(8):931-46.
3. Chandran B, Chakkiath VK, Thomas SPO. A multicentre, randomized, controlled human clinical study to assess the efficacy and safety of Biocurcuminax (BCM-95) compared to diclofenac sodium. Submitted for publication. 2009.

CAUTION: Do not take if you have gallbladder problems or gallstones. If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your health care provider before taking this product.

BCM-95® and **Bio-Curcumin®** are registered trademarks of Dolcas-Biotech, LLC. **PARACTIN®** is a registered trademark of HP Ingredients.



Item #01404

To order Arthro-Immune Joint Support, call
1-800-544-4440 or visit www.LifeExtension.com

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.

GO TO THE MAX

Vitamin C's popularity is undeniable—and so are its benefits! It has been over 80 years since this critical vitamin was isolated, and its importance in our diet cannot be overstated. However, since humans don't manufacture **vitamin C** internally, it must be obtained through dietary sources or supplements.

This can be problematic because **vitamin C** is a *water-soluble* nutrient that is quickly oxidized and released by the body, which means that for those seeking vitamin C's optimal health benefits they have to consume the vitamin several times a day.¹

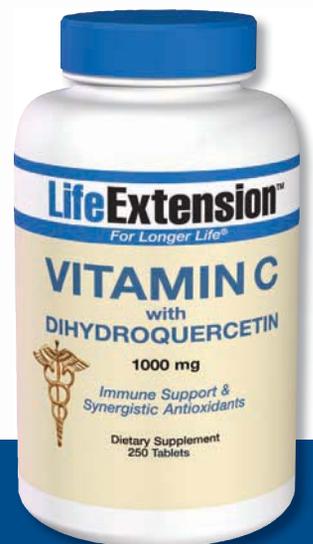
Fortunately, a *flavonoid* antioxidant known as *dihydroquercetin* functions as a **vitamin C** "supercharger." Studies demonstrate that *dihydroquercetin* acts to inhibit the oxidation of **vitamin C**, thereby helping to maintain its concentration and to recycle **vitamin C** throughout the body.^{2,3} This synergistic relationship between *dihydroquercetin* and **vitamin C** greatly enhances the efficacy of both molecules in the body's organs and tissues.

Vitamin C with Dihydroquercetin was formulated for those seeking to obtain optimal efficacy and antioxidant protection from their vitamin C supplement. The suggested daily dose of one tablet of this formula supplies **1,000 mg** of **vitamin C** (as ascorbic acid), along with **10 mg** of *dihydroquercetin-3-rhamnoside*, a highly bioavailable form of dihydroquercetin derived from grape leaf extract.

A bottle containing 250 tablets of **Vitamin C with Dihydroquercetin** retails for \$25.50. If a member buys four bottles, the price is reduced to just **\$17.44 per bottle**. Contains corn.

References:

1. *PLoS Med.* 2005 Sep;2(9):e307; author reply e309.
2. *Am J Clin Nutr.* 1988 Sep;48(3):601-4.
3. *J Food Tech.* 1969;4:255-67.



ITEM #00927

To order **VITAMIN C with Dihydroquercetin**, call 1-800-544-4440 or visit www.LifeExtension.com

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.



Take Control of
Excess Glucose Calories
with new...

CinSulin[®] with InSea^{2TM} and Crominex[®] 3+

Cutting-Edge Support for Healthy Glucose Metabolism

Dietary carbohydrates are nearly impossible to avoid in today's "grab-and-go" world. The result? Countless aging Americans find themselves under constant assault from excess **glucose** calories. Even health-conscious, active people can experience higher-than-desired blood sugar levels as they age. **Life Extension[®]** now offers an enhanced, all-natural, *multi-pronged* approach called **CinSulin[®] with InSea^{2TM} and Crominex[®] 3+**.

An Extract Clinically Validated by the USDA!

Excitement has been building among scientists around the world over the clinically proven power of a novel form of **cinnamon** to support healthy glucose metabolism.

Scientists at the **US Department of Agriculture** have been quietly studying it *for more than a decade*.^{1,2} Government experts have been amazed by compelling *in vitro* results documenting its ability to induce a **twenty-fold** increase in sugar metabolism.³

Studies in humans have proven just as impressive. In a recent double-blind, placebo-controlled clinical trial,⁴ a group of maturing individuals (average age 61) taking **500 mg** per day of the cinnamon extract contained in the new **CinSulin[®]** formula experienced an average *decline* of **12 mg/dL** in fasting blood glucose after only two months. This novel cinnamon extract also produced a significant decrease in **after-meal glucose spikes** (an average of **32 mg/dL**) after ingestion of **75 g** of carbohydrates!

An objective of those who practice **calorie restriction** is to maintain **fasting glucose** levels around **80 mg/dL** of blood and after-meal glucose spikes to no greater than **40 mg/dL**. CinSulin® may help more longevity enthusiasts accomplish their glucose control objective.



Standardized for Purity and Safety

The danger with cinnamon is the presence of naturally occurring, toxic fat-soluble compounds known as *aldehydes*.

Life Extension® has identified a highly purified "type-A" **water-soluble cinnamon extract** using a patented process that eliminates these dangerous toxins.



Carb Blockers from the Sea

Researchers have known of the many health benefits of **seaweed extracts** for years.

Only recently has it come to light that a proprietary form of **seaweed** extract called **InSea^{2™}** blocks the action of **glucosidase** and **amylase**—enzymes your body uses to break down **carbohydrates** into glucose, facilitating its transport into the bloodstream.

Derived from **brown seaweed** and **bladderwrack**, a single **500 mg** dose of this proprietary compound triggered a **48.3%** decline in after-meal blood sugar spikes in a recent double-blind, placebo-controlled trial.⁵

Better Glucose Absorption with Novel Chromium Complex

Chromium has long been known for its role in maintaining healthy glucose metabolism in those already within normal range. It has been **optimized** with standardized extract of **Indian gooseberry** and a proprietary form of the adaptogen **shilajit**. The name of this most advanced chromium complex is **Crominex® 3+**. The **Crominex® 3+** complex helps support:

- **Normal cellular glucose absorption**⁶⁻¹⁰
- **Healthy endothelial function**^{11,12}
- **Healthy lipid and triglyceride levels**¹³⁻¹⁶
- **Normal cellular energy production**^{17,18}

Combined with **CinSulin®** and **InSea^{2™}**, the result is an unrivalled formula that affords optimal support for healthy glucose metabolism in aging individuals. The suggested serving of 1 vegetarian capsule of **CinSulin® with InSea^{2™} and Crominex® 3+** taken 20-30 minutes before three meals of the day supplies:

CinSulin®	525 mg
InSea^{2™}	300 mg
Chromium (as Crominex® 3+)	399 mcg

A bottle containing 90 vegetarian capsules of **CinSulin® with InSea^{2™} and Crominex® 3+** retails for \$38. If a member buys four bottles, the price is reduced to just **\$25.50** per bottle.

Contains rice.



Item #01503

To order **CinSulin® with InSea^{2™} and Crominex® 3+** or **Optimized Chromium with Crominex® 3+** call **1-800-544-4440** or visit **www.LifeExtension.com**

For Those Who Want Only Extra Chromium

For those wishing to obtain the unique benefits of the novel chromium complex (chromium plus Indian gooseberry and shilajit), **Life Extension®** also now offers a standalone version of **Optimized Chromium with Crominex® 3+**.

A bottle containing 60 **500 mcg** vegetarian capsules of **Optimized Chromium with Crominex® 3+** retails for \$9. If a member buys four bottles, the cost is just **\$6** per bottle.

Contains rice.



Item #01504

CinSulin® is a registered trademark of Tang-An Medical Ltd., manufactured under US patent #6,200,569. InSea^{2™} a trademark of innoVactiv™. Crominex® 3+ is a registered trademark of Natreon, Inc.

References

1. *J Agric Food Chem.* 2000 Mar; 48(3):849–52.
2. *Phytomedicine.* 2010 May 27.
3. *J Agric Food Chem.* 2004 Jan 14;52(1):65-70
4. *FASEB J.* 2010; 24:722.1.
5. *J Metab.* Submitted for publication.
6. *Diabetes Res Clin Pract.* 1995 Jun;28(3):179-84.
7. *Diabetes.* 1997 Nov;46(11):1786-91.
8. *Ned Tijdschr Geneeskd.* 2004 Jan 31;148(5):217-20.
9. *Altern Med Rev.* 2002 Jun;7(3):218-35.
10. *Saudi Med J.* 2000 Jan;21(1):45-50.
11. *Br J Nutr.* 2007 Jun;97(6):1187-95.
12. *Yakugaku Zasshi.* 2005 Jul;125(7):587-91.
13. *J Ethnopharmacol.* 2002 Jan;79(1):81-7.
14. *J Nutr Sci Vitaminol (Tokyo).* 2005 Dec;51(6):413-8.
15. *Yakugaku Zasshi.* 2007 Feb;127(2):385-8.
16. *Indian J Exp Biol.* 2001 Aug;39(8):760-6.
17. *Indian J Exp Biol.* 1997 Mar;35(3):297-9.
18. *Phytother Res.* 2007 May;21(5):401-5.



**Can
Blueberry Extracts
Halt
Metabolic Syndrome?**

The ability of **blueberry polyphenols** to combat **diabetes** first gained scientific validation over **80 years ago**. This groundbreaking data appeared in mainstream medicine's revered bastion of knowledge—the ***Journal of the American Medical Association (JAMA)***.

This landmark *JAMA* report published in **1927** revealed the ability of a specific **blueberry** extract to *slash* blood sugar levels.¹ The totality of the evidence was so compelling, the author called it the one compound to date that came closest to *curing* diabetes.

Of course, the conventional physicians on *JAMA's* editorial board saw fit to *refute* these findings. They argued that such extracts could not be standardized, dismissing the blueberry compounds under study as a “new and non-official remedy.” Mainstream doctors today *persist* in making similar pronouncements about natural interventions.

Life Extension® members know better.

In this article, you will discover up-to-date data vindicating blueberry polyphenols' promise in combating the factors that result in deadly **metabolic syndrome**—the co-occurrence of insulin resistance, hypertension, abdominal obesity, and abnormal blood lipid profiles that increases the risk of heart disease and diabetes.

You will learn how blueberries may boost insulin sensitivity, lower LDL cholesterol and triglycerides, and improve **leptin** sensitivity, which has been associated with reduced appetite and lower body weight.

You'll also discover the potential of blueberry polyphenols to halt the progress of the disease in humans who are already diabetic. Finally, detailed evidence is presented of the potential ability of blueberry extract to combat multiple forms of **cancer**—for which metabolic syndrome sufferers are at *greater* risk than the general population.² > >



Defusing Diabetic Risk Factors

Researchers around the world have been steadily amassing evidence of blueberry polyphenols' anti-diabetic action on *carbohydrate metabolism*—the core physiological function that becomes pathologic in diabetics.

Some of the most recent published studies³⁻⁶ highlight the capacity of blueberry extract to protect against elevated glucose and *hyperglycemic* toxicity,^{7,8} facilitate absorption of glucose into muscle tissue,⁹ and to thwart *adipogenesis*,¹⁰ the formation of new body fat stores. Biochemical assays have also shown that blueberry extracts are potent inhibitors of the *alpha-glucosidase* and *alpha-amylase* enzymes, which break down dietary starch into glucose for absorption into the blood.^{11,12}

Recent pre-clinical models have confirmed their anti-obesity and anti-diabetic effects. In a 2010 study,¹³ control groups of mice were fed either a low- or high-fat diet, while experimental groups also received blueberry juice or extracts in their drinking water.

After 72 days, the high-fat diet control group showed increased body weight and higher body fat percentage compared to the low-fat group. However, when the high-fat groups that also received blueberry juice or extract were examined, they *exhibited no difference in body fat compared to the low-fat group*.

In other words, the simple addition of concentrated *blueberry polyphenols* into the high-fat diet group *blocked* body fat accumulation.

The same held true for fasting glucose levels. The high-fat diet control group exhibited very high fasting glucose, whereas the high-fat group given blueberry extracts was found to have fasting glucose levels *identical* to the low-fat group. Blood levels of the hormone *leptin*, secreted by fat cells and sometimes called “the hunger hormone,” rose significantly in the high-fat diet group, while the blueberry-supplemented high-fat group showed lowered leptin levels. (Reduced blood leptin has been associated with reduced appetite and lower body weight.)

The authors added that *blueberry juice did not prove as effective as blueberry extract in attaining these results*.

A similar experimental model revealed normalization of elevated blood lipids—**cholesterol** and **triglycerides** in particular—in mice given a high-fat diet that were also fed blueberry extracts or whole blueberries.¹⁴ The experimental group fed blueberry extracts gained less weight and had lower body fat than animals fed the high-fat diet alone.

Researchers also noted in this study that *they did not observe the same lipid-lowering effect in the group fed whole berries as opposed to purified berry extract*.

Other scientists have corroborated these findings using an enriched blueberry juice with high antioxidant

and polyphenol content.⁹ The experimental group whose drinking water contained this fortified blueberry juice ate less, weighed less, and had lower blood sugar levels than controls.

A Potent Intervention in Pre-Diabetic Humans

These remarkable results have prompted researchers to examine blueberry's impact on blood lipid profiles, insulin sensitivity, and cardiovascular health in aging humans at risk for diabetes—or *already diabetic*. Some have identified a role for blueberry extracts in halting the progression to full-blown diabetes in at-risk or pre-diabetic individuals.

In a recent double-blind, placebo-controlled study, 32 obese, insulin-resistant (pre-diabetic) adult men and women drank smoothies made with freeze-dried blueberry powder for six weeks. A placebo control group consumed smoothies without blueberry extracts.⁵

Participants were carefully screened and counseled by dietitians both before and during the study to avoid eating other anthocyanin-rich foods or beverages. In another measure of the study's rigor, participants were also instructed about ways to decrease caloric intake to compensate for the caloric energy load of their twice-daily smoothies. Further, blood samples were obtained following a fasting period with a clamp technique considered state-of-the-art for precise determination of insulin sensitivity. Besides measurements of body composition, weight, and adiposity, blood was also drawn for a host of inflammatory markers.

With no changes in body weight or composition compared to controls, the blueberry group showed a statistically significant and much greater improvement in *insulin sensitivity* (**22.2%** plus or minus 5.8%) versus the placebo arm (**4.9%** plus or minus 4.5%).

Another study¹⁵ examined 48 individuals afflicted with *metabolic syndrome*, the constellation of pathologies that includes high blood pressure, *central obesity* (around the abdomen), elevated blood glucose, insulin resistance, and unfavorable lipid profiles (high LDL cholesterol and triglycerides and low HDL cholesterol).

In this randomized, controlled trial, participants consumed a freeze-dried blueberry drink or an equal amount of fluids. After eight weeks, the blueberry group experienced greater decreases in systolic and diastolic blood pressure readings, compared with the control group. The test group *also* exhibited lower levels of **oxidized LDL** and other inflammatory markers associated with the metabolic syndrome.

Blueberry Extracts and Metabolic Syndrome

- Blueberry polyphenols' power to combat **diabetes** first gained scientific validation in this country over **80 years ago** in the *Journal of the American Medical Association*.
- As conventional medicine has ignored these findings ever since, researchers are confirming blueberry polyphenols' role in targeting factors that contribute to **metabolic syndrome**.
- They have been shown to combat high blood sugar, obesity, adverse blood lipid profiles, insulin resistance, high blood pressure, and full-blown diabetes.
- Blueberry polyphenols have also emerged recently as potentially powerful anti-cancer agents—an important finding since those with metabolic syndrome are at much greater risk for a horrifically wide range of cancers than the general population.



Blueberry Extract Improves Pancreatic Cell Function

At the molecular level, researchers are discovering how berry polyphenols favorably influence the balancing act of energy needs fueled by sugar and the hyperglycemia that results from excess sugar in the bloodstream.

Scientists have zeroed in on blueberry **anthocyanins**, part of a vast group of more than 600 water-soluble phytochemicals that give many fruits and vegetables the deep blue, purple, red and near-black colors seen in vegetables such as radishes and fruits such as black raspberries and blueberries.³⁰

Anthocyanins comprise part of a larger class of plant pigments and flavone-derived plant products known as **flavonoids**. Both classes of phytochemicals are encompassed by the antioxidant supergroup known as **polyphenols**, carbon-containing organic compounds with a wide range of antioxidant, anti-inflammatory, and blood sugar-regulating actions.

In particular, **in vitro** studies carried out using cultured rodent pancreatic insulin-producing cell lines showed that **delphinidin-3-glucoside**, the pigmentary compound that gives blueberries their deep blue color, stimulated insulin secretion more than other tested anthocyanins.⁴ This means they may *boost* much-needed insulin production in pancreatic cells damaged by diabetes.



Blueberry Extract's Anti-Cancer Power

As detailed in the November 2010 issue of *Life Extension Magazine*[®], diabetics are predisposed to a horrifically wide array of cancers, including those of the breast, liver, colon, pancreas, endometrium (uterine lining), kidney, and possibly other tissues.¹⁶⁻¹⁸ Just as the anti-diabetic drug **metformin** has proven a potent anti-cancer agent, blueberry extracts are emerging as powerful chemopreventive interventions as well.

In vitro studies have revealed a host of anti-cancer properties shared by blueberry anthocyanins and other flavonoids found in brightly colored fruits and vegetables.¹⁹ Their biochemical structure enables them to powerfully neutralize **reactive oxygen species (ROS)**. By inflicting damage to cell structure and DNA, ROS can induce the development of cancer in healthy cells. Using many different types of cancer cell lines in the laboratory, scientists have demonstrated anthocyanins' capacity to neutralize harmful ROS.

Researchers have discovered that *blueberry* anthocyanins combat cancer development in three distinct ways:

1. They inhibit the creation of new blood vessels essential to tumor growth (**angiogenesis**).¹⁹
2. They impede the spread of tumor cells to different locations in the body (**metastasis**).¹⁹
3. They stimulate cellular maturation, or **differentiation**, into less injurious or malignant forms.¹⁹

Pre-clinical studies have confirmed these effects. Using experimental models of cancer, blueberry polyphenols display the ability to slow or inhibit tumor growth altogether. These include blocking **esophageal cancer** in rats using a mixed berry preparation,²⁰ **colon cancer** inhibition in rats with **pterostilbene**, a constituent of blueberries,²¹ and protection from **skin cancer**—causing UVB ultraviolet radiation and DNA damage in mice skin.²²

In one animal experiment with direct relevance to human tumor biology, researchers devised a model to investigate a possible nutritional approach to a common type of tumor seen in infants known as endothelial cell neoplasms. A control group of mice was given injections of a cell line known to cause **hemangioendothelioma**, a type of skin tumor, and was fed orally with a standard liquid. Test mice injected with the same tumor-causing cell line also received a liquid feeding that contained a standardized blueberry extract.²³

After the test period, the investigators found **dose-dependent** smaller tumor size and enhanced survival in the blueberry extract-treated group compared to controls. That is, animals that received higher doses of blueberry extract had a greater reduction in tumor size than those that received lower doses. Molecular and biochemical assays showed less oxidative stress



in extract-treated animals. They also observed greater antioxidant activity, inhibition of tumor-signaling pathways, and diminished proliferation of the type of blood vessel cells that lead to uncontrolled tumor growth.²³

Other studies have shown that blueberries and other anthocyanins have the ability to block the runaway growth of tumor cells in tissue culture. In particular, they induce **apoptosis** or programmed cell death. These studies show promise regarding blueberries' ability to combat tumor growth in animal models of esophageal, colon, lung, and skin cancer.^{19,24}

Chemoprevention in Humans

Given these promising findings, a multinational group of European researchers led by Marta Rossi of the Mario Negri Pharmacologic Research Institute in Milan, Italy, recently reported on polyphenols and other compounds found in blueberries and other fruits in relation to tumor risk.²⁵ Using a similar study design, these researchers have compared relative risk for colorectal²⁶ cancers in large patient groups with and without tumor growth in retrospective case-control studies.

Rossi and colleagues used a detailed food-frequency questionnaire with US Department of Agriculture (USDA) nutrient and food-composition databases to extrapolate average intake of **polyphenols**, such as those found in blueberries and other fruits.

After comparing the dietary data of patient groups with tissue-confirmed tumors to matched controls admitted to the same hospitals for acute but non-cancerous conditions, Rossi and colleagues estimated an

Diabetes: An American Scourge

The Centers for Disease Control estimate that between **one in three to one in five** Americans between the ages of 18 and 79 will be diabetic by mid-century. This dramatic rise is expected to double or even *triple* the more than **\$174 billion** spent on diabetic care in the US in 2007.³¹

At the core of this raging epidemic is the complex interplay of **adiposity**, or increased body weight due to fat, and pools of inflammatory molecules (cytokines) generated by greater fat stores. Changes in cell-to-cell signaling and cellular integrity lead to insulin resistance, a condition marked by faulty transport of **glucose**, the sugar released into the circulation by the digestion of simple and complex sugars and carbohydrates.

Under normal conditions, glucose is taken up from the bloodstream and moved into the cytoplasmic interior of cells, where it is burned as fuel to provide energy for cellular processes.

In diabetics, glucose builds up in the blood as cells become unable to utilize sugar properly, leading to the state known as **insulin resistance**. Over time, the pancreas can no longer produce insulin in sufficient quantity to transport sugar into the insulin-resistant cells. Thus, later stages of the disease are marked by inadequate or near-zero pancreatic insulin production.

Insulin resistance is the hallmark of type 2 diabetes, which accounts for **90 to 95%** of all cases diagnosed in the United States.³² Formerly known as noninsulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes, type 2 diabetes is increasingly seen in young adults and even children, which represents an epidemiologic shift that mirrors striking increases in overweight and obesity among youth over the last 35 years. End-stage organ damage occurs in the heart and blood vessels (cardiovascular diseases), kidney, eyes, skin, liver, and other vital structures.

The Close Relationship Between Metabolic Syndrome and Cancer

An estimated **24%** of the US population suffers from metabolic syndrome,³³ a constellation of risk factors including abdominal obesity, atherogenic dyslipidemia (high triglycerides, high LDL, and low HDL), elevated blood pressure, insulin resistance, a pro-inflammatory state, and a pro-thrombotic state.

Scientists have long known that metabolic syndrome increases the risks of diabetes and heart disease.³³ Now, a growing body of research reveals that metabolic syndrome is closely linked with another deadly disease of aging—cancer.

A study published in late 2010 reveals that elevated triglycerides are linked with an increased risk of cancer in men and women. More than 500,000 adults were followed for an average of 13 years. Men with the highest triglyceride levels experienced an elevated risk for melanoma as well as cancers of the colon, respiratory tract, kidney, and thyroid. Elevated

triglycerides increased the risk of respiratory, cervical, and non-melanoma skin cancers in women.³⁴

Metabolic syndrome has been particularly closely linked with colorectal cancer.³³ In both men and women, metabolic syndrome increases the risk of colon tumors.³⁵

Not only does metabolic syndrome increase colon cancer risk, it also influences the prognosis of the disease. Patients with colorectal cancer who also have metabolic syndrome suffer from worse survival rates, compared with colorectal cancer patients who do not have metabolic syndrome.³⁶

Scientists believe that the pathophysiological mechanisms linking metabolic syndrome and cancer include abdominal obesity, insulin resistance, elevated C-reactive protein (CRP), elevated body mass index, high levels of insulin-like growth factor-1, high leptin levels, and low adiponectin levels.³³

odds ratio for cancer risk as a function of polyphenol intake. Using this method, the researchers concluded that the polyphenols found in blueberries and other fruits may exert a protective effect against these cancers.^{25,26}

In laboratory and animal studies, blueberry extract has proven effective in fighting triple-negative human breast cancer cell lines, which are among the most aggressive forms of breast cancer. In the laboratory, blueberry extracts decreased cell signaling pathways involved in the spread of cancer. In an animal model of human breast cancer, blueberry extracts decreased tumor weight and proliferation, while increasing cancer cell death.²⁷

The anti-cancer benefits of blueberries may arise from their potent antioxidant activity. When scientists assayed 25 fruits commonly consumed in the United States, they found that blueberries and other berries, along with pomegranates, demonstrated the highest cellular antioxidant activity. They proposed that increasing consumption of fruits such as blueberries may thus decrease oxidative stress, reducing the risk of cancer.²⁸

Berry polyphenols have also demonstrated the ability to protect genomic DNA integrity, thereby preventing mutations that can lead to cancer. In addition to fighting oxygen free radicals, berry extracts demonstrate anti-angiogenic effects and inhibit the expression of nuclear factor-kappaB (NF-kB), a factor that turns on genes involved in inflammation and cancer.²⁹

Summary

The power of *blueberry polyphenols* to combat **diabetes** first gained scientific validation in this country over **80 years ago** in the *Journal of the American Medical Association*. Its author argued they were the closest thing to a “cure” for diabetes known to modern science at the time. Yet mainstream medicine has ignored this natural intervention. Recent research indicates a significant role for **blueberry polyphenols** in favorably altering the factors that contribute to metabolic syndrome: high blood sugar, abdominal obesity, adverse lipid profiles, insulin resistance, and high blood pressure. Given that metabolic syndrome sufferers are also predisposed to a broad range of cancers, it is both significant and encouraging that blueberry polyphenols have emerged recently as potentially powerful anti-cancer agents. ●

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

References

1. Allen FM. Blueberry leaf extract: physiologic and clinical properties in relation to carbohydrate metabolism. *JAMA*. 1927 Nov 5;89(19):1577-81.
2. Cowey S, Hardy RW. The metabolic syndrome: a high-risk state for cancer? *Am J Pathol*. 2006 Nov;169(5):1505-22

3. Hanhineva K, Torronen R, Bondia-Pons I, et al. Impact of dietary polyphenols on carbohydrate metabolism. *Int J Mol Sci*. 2010 Mar 31;11(4):1365-402.
4. Jayaprakasam B, Vareed SK, Olson LK, Nair MG. Insulin secretion by bioactive anthocyanins and anthocyanidins present in fruits. *J Agric Food Chem*. 2005 Jan;53(1):28-31.
5. Stull AJ, Cash KC, Johnson WD, Champagne CM, Cefalu WT. Bioactives in blueberries improve insulin sensitivity in obese, insulin-resistant men and women. *J Nutr*. 2010 Oct;140(10):1764-8.
6. Abidov M, Ramazanov A, Jimenez Del Rio M, Chkhikvishvili I. Effect of Blueberin on fasting glucose, C-reactive protein and plasma aminotransferases, in female volunteers with diabetes type 2: double-blind, placebo controlled clinical study. *Georgian Med News*. 2006 Dec;(141):66-72.
7. Nemes-Nagy E, Szocs-Molnar T, Dunca I, et al. Effect of a dietary supplement containing blueberry and sea buckthorn concentrate on antioxidant capacity in type 1 diabetic children. *Acta Physiol Hung*. 2008 Dec;95(4):383-93.
8. Martineau LC, Couture A, Spoor D, et al. Anti-diabetic properties of the Canadian lowbush blueberry *Vaccinium angustifolium* Ait. *Phytomedicine*. 2006 Nov;13(9-10):612-23.
9. Vuong T, Martineau LC, Ramassamy C, Matar C, Haddad PS. Fermented Canadian lowbush blueberry juice stimulates glucose uptake and AMP-activated protein kinase in insulin-sensitive cultured muscle cells and adipocytes. *Can J Physiol Pharmacol*. 2007 Sep;85(9):956-65.
10. McDougall GJ, Shpiro F, Dobson P, Smith P, Blake A, Stewart D. Different polyphenolic components of soft fruits inhibit alpha-amylase and alpha-glucosidase. *J Agric Food Chem*. 2005 Apr 6;53(7):2760-6.
11. Vuong T, Benhaddou-Andaloussi A, Brault A, et al. Antiobesity and antidiabetic effects of biotransformed blueberry juice in KKA(y) mice. *Int J Obes (Lond)*. 2009 Oct;33(10):1166-73.
12. Melzig MF, Funke I. Inhibitors of alpha-amylase from plants—a possibility to treat diabetes mellitus type II by phytotherapy? *Wien Med Wochenschr*. 2007;157(13-14):320-4.
13. Prior RL et al. Purified blueberry anthocyanins and blueberry juice alter development of obesity in mice fed an obesogenic high-fat diet. *J Agric Food Chem*. 2010 Apr 14;58(7):3970-6.
14. Prior RL et al. Purified berry anthocyanins but not whole berries normalize lipid parameters in mice fed an obesogenic high fat diet. *Mol Nutr Food Res*. 2009 Nov;53(11):1406-18.
15. Basu A, Du M, Leyva MJ, et al. Blueberries decrease cardiovascular risk factors in obese men and women with metabolic syndrome. *J Nutr*. 2010 Sept;140(9):1582-7.
16. Czyzyk A, Szczepanik Z. Diabetes mellitus and cancer. *Eur J Intern Med*. 2000 Oct;11(5):245-52.
17. Vigneri P, Frasca F, Sciacca L, Pandini G, Vigneri R. Diabetes and cancer. *Endocr Relat Cancer*. 2009 Dec;16(4):1103-23.
18. Martin-Castillo B, Vazquez-Martin A, Oliveras-Ferraros C, Menendez JA. Metformin and cancer: Doses, mechanisms and the dandelion and hormetic phenomena. *Cell Cycle*. 2010 Mar 21;9(6).
19. Wang LS, Stoner GD. Anthocyanins and their role in cancer prevention. *Cancer Lett*. 2008 Oct 8;269(2):281-90.
20. Stoner GD, Wang LS, Chen T. Chemoprevention of esophageal squamous cell carcinoma. *Toxicol Appl Pharmacol*. 2007 Nov 1;224(3):337-49.
21. Paul S, DeCastro AJ, Lee HJ, et al. Dietary intake of pterostilbene, a constituent of blueberries, inhibits the beta-catenin/p65 downstream signaling pathway and colon carcinogenesis in rats. *Carcinogenesis*. 2010 Jul;31(7):1272-8.
22. Afaq F, Syed DN, Malik A, et al. Delphinidin, an anthocyanidin in pigmented fruits and vegetables, protects human HaCaT keratinocytes and mouse skin against UVB-mediated oxidative stress and apoptosis. *J Invest Dermatol*. 2007 Jan;127(1):222-32.
23. Gordillo G, Fang H, Khanna S, Harper J, Phillips G, Sen CK. Oral administration of blueberry inhibits angiogenic tumor growth and enhances survival of mice with endothelial cell neoplasm. *Antioxid Redox Signal*. 2009 Jan;11(1):47-58.
24. Zu XY, Zhang ZY, Zhang XW, Yoshioka M, Yang YN, Li J. Anthocyanins extracted from Chinese blueberry (*Vaccinium uliginosum* L.) and its anticancer effects on DLD-1 and COLO205 cells. *Chin Med J (Engl)*. 2010 Oct;123(19):2714-9.
25. Rossi M, Rosato V, Bosetti C, et al. Flavonoids, proanthocyanidins, and the risk of stomach cancer. *Cancer Causes Control*. 2010 Oct;21(10):1597-604.
26. Rossi M, Negri E, Parpinel M, et al. Proanthocyanidins and the risk of colorectal cancer in Italy. *Cancer Causes Control*. 2010 Feb;21(2):243-50.
27. Adams LS, Phung S, Yee N, Seeram NP, Li L, Chen S. Blueberry phytochemicals inhibit growth and metastatic potential of MDA-MB-231 breast cancer cells through modulation of the phosphatidylinositol 3-kinase pathway. *Cancer Res*. 2010 May 1;70(9):3594-605.
28. Wolfe KL, Kang X, He X, Dong M, Zhang Q, Liu RH. Cellular antioxidant activity of common fruits. *J Agric Food Chem*. 2008 Sep 24;56(18):8418-26.
29. Zafrá-Stone S, Yasmin T, Bagchi M, Chatterjee A, Vinson JA, Bagchi D. Berry anthocyanins as novel antioxidants in human health and disease prevention. *Mol Nutr Food Res*. 2007 Jun;51(6):675-83.
30. Ghosh D, Konishi T. Anthocyanins and anthocyanin-rich extracts: role in diabetes and eye function. *Asia Pac J Clin Nutr*. 2007;16(2):200-8.
31. Available at: <http://www.pophealthmetrics.com/content/8/1/29>. Accessed December 15, 2010.
32. Available at: <http://cdc.gov/diabetes/pubs/factsheet07.htm>. Accessed December 16, 2010.
33. Pais R, Silaghi H, Silaghi AC, Rusu ML, Dumitrascu DL. Metabolic syndrome and risk of subsequent colorectal cancer. *World J Gastroenterol*. 2009 Nov 7;15(41):5141-8.
34. Borena W, Stocks T, Jonsson H, et al. Serum triglycerides and cancer risk in the metabolic syndrome and cancer (Me-Can) collaborative study. *Cancer Causes Control*. 2010 Dec 8.
35. Kaneko R, Sato Y, An Y, et al. Clinico-epidemiologic study of the metabolic syndrome and lifestyle factors associated with the risk of colon adenoma and adenocarcinoma. *Asian Pac J Cancer Prev*. 2010;11(4):975-83.
36. Shen Z, Wang S, Ye Y, et al. Clinical study on the correlation between metabolic syndrome and colorectal carcinoma. *ANZ J Surg*. 2010 May;80(5):331-6.



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Grape-Berry Actives	85 mg
Quercetin	60 mg
Trans-Pterostilbene	0.5 mg
Fisetin	10 mg

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References

1. *Cell*. 2006 Dec 15;127(6):1109-22.
2. *Endocrinology*. 2008 Jan;149(1):84-92.
3. *Crit Care Med*. 2004 Oct;32(10):2097-103.
4. *J Agric Food Chem*. 1999 Apr;47(4):1416-21.
5. *Arch Pharm Res*. 2002 Oct;25(5):561-71.
6. *Nutr Cancer*. 1999;35(1):80-6.
7. *Anticancer Agents Med Chem*. 2006 Sep;6(5):389-406.
8. *Nature*. 2006 Nov 16;444(7117):337-42.
9. *Nature*. 2004 Aug 5;430(7000):686-9.
10. *Xenobiotica*. 2000 Sep;30(9):857-66.

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Defuse the Metabolic Time Bomb!



Ever since a landmark report was published in a prestigious medical journal back in **1927**,¹ researchers around the world have compiled impressive data on the power of **berry extracts** to support healthy metabolic function.

Today, the need for natural metabolic support is greater than ever as **24%** of the US population² faces a host of co-occurring health issues related to long-term carbohydrate exposure. And all of us are confronted with unavoidable, age-related **metabolic changes** that can affect **blood glucose, triglycerides, cholesterol, insulin, body weight, heart health**—even **normal cellular reproduction**.³⁻¹⁶

Broad-Spectrum Defense with Berry Extracts

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Specific *polyphenols* (plant-based compounds) found in **blueberries, pomegranate** and other brightly colored fruits—along with dark fruits like **açaí** and **blackcurrant**—have been shown to provide **broad-spectrum** support for total metabolic health.

In addition to their extraordinary antioxidant capacity,¹⁷⁻²¹ compounds found in **blueberries** (including **anthocyanins** and **pterostilbene**) target multiple factors that support healthy utilization of carbohydrate calories. Taken together, published studies show that they promote:

- Glucose levels already within normal range²²⁻²⁴
- Healthy body weight²⁵
- Insulin levels already within normal range^{26,27}
- Healthy DNA structure^{28,29}
- Blood lipids (triglycerides, cholesterol) already within normal range³⁰
- Youthful cellular function and reproduction^{15,16}
- Endothelial and vascular function³¹⁻⁴²
- Blood pressure already within normal range⁴³



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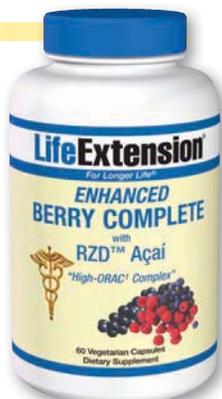
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To augment the multiple benefits of blueberry extract, this formula includes a proprietary, standardized pomegranate extract called POMELLA. It is rich in *punicalagins*—polyphenols contained in pomegranate that have been shown to benefit arterial health through their power to support healthy **endothelial** function.⁴⁷⁻⁴⁹

Contains corn.

Each vegetarian capsule of Blueberry Extract with Pomegranate provides:

Wild Blueberry (<i>Vaccinium angustifolium</i>) extract (fruit)	375 mg
[standardized to 1.5% total anthocyanins (5.625 mg)]	
POMELLA® Pomegranate (<i>Punica granatum</i>) extract (fruit)	200 mg
[standardized to 30% punicalagins (60 mg)]	
AuroraBlue® Wildcrafted Blueberry Complex	100 mg
Wild Blueberry (<i>Vaccinium angustifolium</i>) extract (fruit)	75 mg
[standardized to 4.9% total anthocyanins (3.675 mg)]	

NOTE: Life Extension®'s Cognitex with NeuroProtection Complex, with or without pregnenolone, also contains a standardized **wild blueberry anthocyanin** extract.

RZD™ and Radiant Zone Dried™ are trademarks of Columbia PhytoTechnology, LLC. POMELLA® Extract is covered under U.S. Patent 7,638,640 and POMELLA® is a registered trademark of Verdure Sciences, Inc.

AuroraBlue is a registered trademark of Denali Bio Technologies, LLC.

References

1. JAMA. 1927 Nov 5;89(19):1577-81.
2. World J Gastroenterol. 2009 Nov 7;15(41):5141-8.
3. Diabetes Care. 1990 Jun;13(6):610-30.
4. Nephrol Dial Transplant. 1996;11 Suppl 5:76-80.
5. Diabetes Care. 2007 Mar;30(3):561-7.
6. Ann Med. 1996 Oct;28(5):419-26.
7. J Nutr. 1998 Sep;128(9):1442-9.
8. Endocrinology. 2003 Sep;144(9):4154-63.
9. Thromb Haemost. 1992 Nov 10;68(5):577-82.
10. Miner Electrolyte Metab. 1995;21(4-5):292-302.
11. Brain Res Brain Res Rev. 2003 Mar;41(2-3):306-23.
12. Am J Physiol Endocrinol Metab. 2001 Jan;280(1):E171-8.
13. Diabetes. 2001 Aug;50(8):1683-90.
14. J Agric Food Chem. 2008 Feb 13;56(3):630-5.
15. Mol Nutr Food Res. 2007 Jun;51(6):665-74.
16. J Agric Food Chem. 2006 Dec 13;54(25):9329-39.
17. J Food Sci. 2007 Mar;72(2):S167-77.
18. J Agric Food Chem. 2006 Feb 8;54(3):607-16.
19. J Nutr. 2008 Sep;138(9):1692-8.
20. J Food Sci. 2008 Jun;73(5):S215-21.
21. Neurobiol Aging. 2005 Dec;26(Suppl 1):128-32.
22. Acta Physiol Hung. 2008 Dec;95(4):383-93.
23. Phytomedicine. 2006 Nov;13(9-10):612-23.
24. Life Sci. 2006 Jul 10;79(7):641-5.
25. Int J Obes (Lond). 2009 Oct;33(10):1166-73.
26. J Agric Food Chem. 2005 Jan;53(1):28-31.
27. J Nutr. 2010 Oct;140(10):1764-8.
28. Mutat Res. 2003 Feb 5;535(1):103-15.
29. J Agric Food Chem. 2004 Jul 28;52(15):4713-9.
30. J Agric Food Chem. 2005 May 4;53(9):3403-7.
31. Neurobiol Aging. 2005 Dec;26(Suppl 1):128-32.
32. J Med Food. 2005 Spring;8(1):8-13.
33. Nutr Neurosci. 2002 Dec;5(6):427-31.
34. J Alzheimers Dis. 2006 Mar;9(1):35-42.
35. J Neurosci. 1999 Sep 15;19(18):8114-21.
36. Mutat Res. 2003 Feb 5;535(1):103-15.
37. Neurobiol Aging. 2006 Feb;27(2):344-50.
38. Nutr Res. 2009 Feb;29(2):130-8.
39. Neurobiol Aging. 2007 Aug;28(8):1187-94.
40. J Med Food. 2009 Feb;12(1):21-8.
41. Wei Sheng Yan Jiu. 2005 Sep;34(5):581-4.
42. Br J Nutr. 2008 Jul;100(1):70-8.
43. J Nutr. 2010 Sept;140(9):1582-7.
44. J Agric Food Chem. 2004 Jun 16;52(12):4026-37.
45. Mol Nutr Food Res. 2009 Nov;53(11):1406-18.
46. J Agric Food Chem. 2010 Apr 14;58(7):3970-6.
47. Nitric Oxide. 2006 Nov;15(3):259-63.
48. Nitric Oxide. 2006 Sep;15(2):93-102.
49. Cardiovasc Res. 2007 Jan 15;73(2):414-23.

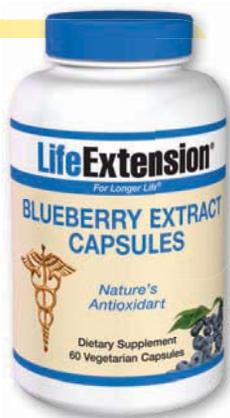
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Item #01214



Item #01214

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[standardized to 1.5% total Anthocyanins (5.625 mg)]	
Wild Blueberry (<i>Vaccinium angustifolium</i>) extract (fruit)	75 mg
[standardized to 4.9% total Anthocyanins (3.675 mg)]	
AuroraBlue® Wildcrafted Blueberry Complex	50 mg

To order any of these **HIGH-POTENCY BERRY EXTRACT FORMULAS**, call 1-800-544-4440 or visit www.LifeExtension.com



The Chemistry of Calm

How to Support Your Brain with Safe Nutritional Supplements

With all the medical and media attention given to **depression** over the past two decades, another equally commonplace condition has been widely overlooked: **anxiety disorder**.

This is all the more remarkable when you consider the amount of pressure so many of us face in our daily lives. In today's hectic, fast-paced, *stressful* world, you would think anxiety-related disorders would pose a far greater threat to our society than depression. And it turns out you'd be right.

According to the National Institute of Mental Health, **40 million** American adults, or about **18.1%** of people in this age group in any given year, suffer from some form of anxiety disorder.* By comparison, only **14.8 million** American adults, or about **6.7%** of the US adult population, suffer from major depression.* †

In other words, the number of adults in this country currently suffering from some form of anxiety disorder is almost **three times** the number of people stricken with major depression.

This is not to diminish the problem of depression. In fact, anxiety disorders frequently co-occur *with* depressive disorders or substance abuse.* And most people who suffer from one type of anxiety disorder also have *another* type of anxiety disorder, which is what makes the information you're about to learn so timely, relevant, and valuable.

As many clinicians will tell you, the range of drugs available to effectively treat anxiety remains relatively limited. Many are potentially addictive and lose efficacy over time, like the benzodiazepines Valium®, Xanax®, and Klonopin®. Others come with a host of undesirable side effects, including dry mouth, cognitive or memory impairment, and loss of sex drive.

Pioneering and visionary psychiatrist Dr. Henry Emmons—first profiled in *Life Extension Magazine*® over three years ago—has remained at the forefront in identifying *natural* interventions to restore calm in the face of stress, with minimal side effects.

In this exclusive excerpt from his most recent work, *The Chemistry of Calm*, Dr. Emmons presents a comprehensive set of natural compounds, along with recommended dosages and regimens, to effectively combat the hidden scourge of anxiety disorder.

* Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Arch Gen Psychiatry*. 2005 Jun;62(6):617-27.

† U.S. Census Bureau Population Estimates by Demographic Characteristics. Table 2: Annual Estimates of the Population by Selected Age Groups and Sex for the United States: April 1, 2000 to July 1, 2004 (NC-EST2004-02) Source: Population Division, U.S. Census Bureau Release Date: June 9, 2005. <http://www.census.gov/popest/national/asrh/>

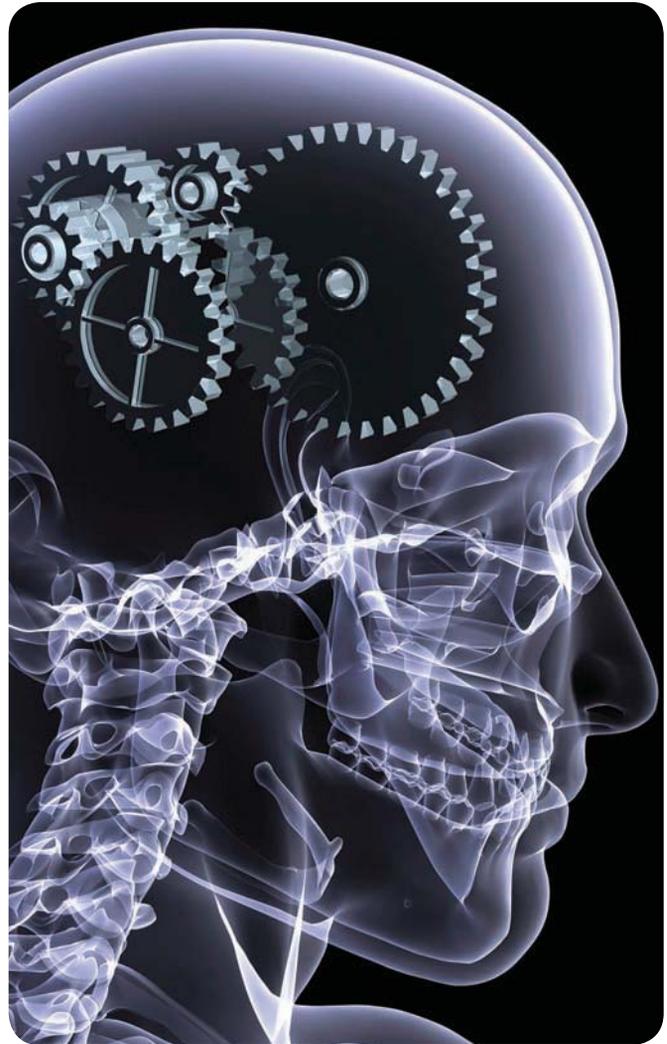
Using medications to try to improve brain chemistry can offer relief, at least in the short term. But medications do not restore normal levels of neurotransmitters, nor even promote normal function. They manipulate the brain chemistry to achieve their desired effects.

SSRIs, for example, prevent the reuptake (or recycling) of serotonin from the space between the nerve cells (the synapse). This allows the chemical to remain in the area of activity for a longer period of time. And the benzodiazepines, such as Valium, Ativan, and Xanax®, work by stimulating the GABA receptors, thus mimicking the calming effects of GABA in the brain.

With time, the brain accommodates to medications and they often lose their effectiveness, requiring higher doses or different drugs. When you try to stop them, there are frequently withdrawal symptoms that feel worse than the original problem.

When the brain produces a neurotransmitter, it starts with a raw ingredient, usually an amino acid from the diet or another chemical that is already present in the brain. Enzymes are then used to convert the amino acid into the needed brain chemical. By understanding this process in detail, we can take measures to assure an ample supply of the raw ingredients and also enhance the activity of the enzymes. There are various cofactors, for example, that help the enzymes work faster (e.g., the B vitamins).

Understanding the function of nutrients allows for more subtle and natural interventions than standard medical practice, and if they are taken appropriately, I believe that they can work better and have fewer side effects than medication.



Brain Chemical	Role in the Fear Circuitry	Nutritional Support
Glutamate, the excitatory chemical	Heightens overall brain activity	Taurine, NAC, green tea, vitamin D3, magnesium, omega-3s
GABA, the inhibitory chemical	Slows overall brain activity	GABA, L-theanine, taurine, vitamin B6, zinc, inositol, herbal therapies
Norepinephrine, the arousal chemical	Raises level of alertness	L-theanine, NAC, omega-3s, inositol
Dopamine, the reward chemical	Focuses attention and enhances pleasure and reward	L-theanine, B vitamins, omega-3s, St. John's wort, ginkgo
Serotonin, the soothing chemical	Calms, regulates sleep and appetite, protects against stress	Tryptophan/5-HTP, DHEA, folic acid, vitamin B6, vitamin B12, vitamin D, omega-3s, St. John's wort
CRH/cortisol, the stress hormone	Prolonged elevation leads to fat storage, insulin resistance, degenerative brain disorders, memory loss, inflammation	DHEA, B vitamins, antioxidants, herbal adaptogens

The Talking Brain

The neurotransmitters are chemicals that enable the different parts of the brain to stay in touch with one another and coordinate their roles. The table below summarizes the key players in the fear circuitry, what they do, and how to support them nutritionally.

Calm Yourself: Glutamate and GABA

Our bodies are truly elegant in their design, and this is especially apparent with brain function. One common element of this design is a binary system, wherein one chemical activates a process while its partner turns it off again. That is true of the brain chemicals **glutamate** and **GABA**, which together account for over 80 percent of brain activity. Glutamate accelerates brain activity—it is excitatory. GABA, on the other hand, puts the brakes on brain activity—it is inhibitory. Together, they keep the brain humming along at just the right pace—not too fast, not too slow.

If you have developed anxiety, then you know that your balance of these two chemicals has been thrown off and the brain's activity level is turned up too high, at least in some areas of the brain.



The balancing supplements for glutamate and GABA include the amino acids **taurine**, **GABA**, and **L-theanine**; the antioxidants **NAC** and **green tea**; **vitamins B6** and **D**; the minerals **magnesium** and **zinc**; **omega-3 fatty acids**; and several herbal therapies.

How Do You Know if Glutamate and GABA Are Imbalanced?

Remember that all of these chemicals are necessary and even beneficial when they are in balance and working properly. But it is possible to have too much glutamate for your own good. If it becomes truly excessive, then the overactivation that results can become outright dangerous to the cells. Glutamate then changes from being simply excitatory to becoming excitotoxic, and this may result in the premature death of the cell.¹ This process may be related to the later development of neurodegenerative diseases such as Alzheimer's or Parkinson's disease.² This is not a good state for your brain to be in for very long.

Additionally, your GABA levels may have fallen too low so that there is not enough inhibition to keep glutamate in check. Like a car that has lost its brake fluid, you may have lost the ability to slow things down. To remedy this imbalance, we can find ways to either reduce the effects of glutamate, enhance the activity of GABA, or both.

The balancing supplements for glutamate and GABA include the amino acids **taurine**, **GABA**, and **L-theanine**; the antioxidants **NAC** and **green tea**; **vitamins B6** and **D**; the minerals **magnesium** and **zinc**; **omega-3 fatty acids**; and several herbal therapies.

Disarm Yourself: Reduce Norepinephrine

Norepinephrine raises our level of alertness and arousal. That is well and good if you're doing something like hunting or evading capture, but not helpful if you are speaking in front of a group or if you have developed panic anxiety for any reason. With depression there is often too little norepinephrine, but in anxiety it is frequently elevated and needs to be toned down.

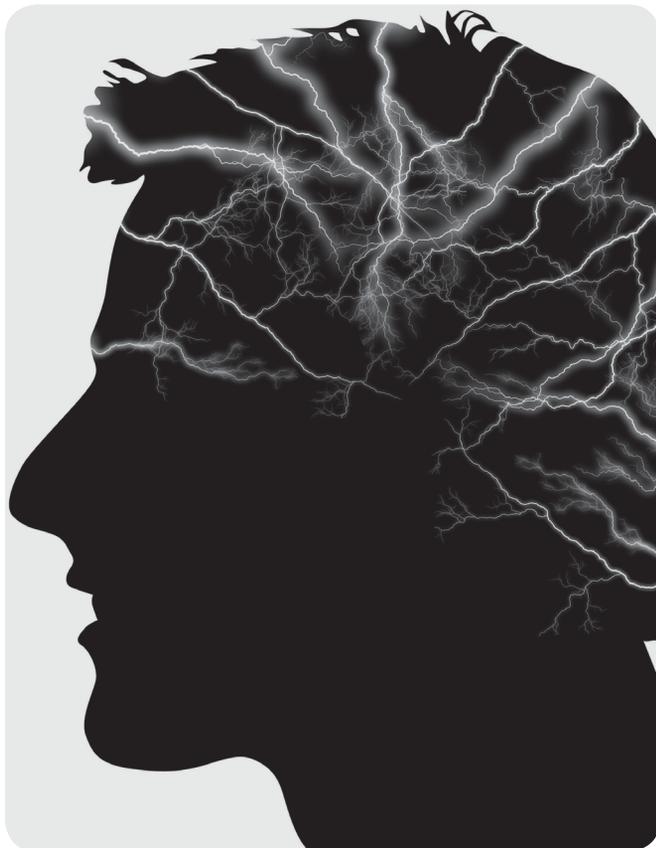
At an emotional level, you may feel panicky, as if something awful is about to happen. And mentally, your mind may go blank as you find that you can't think clearly or remember things, no matter how hard you try.

You can tone down the effects of norepinephrine by taking the amino acid **L-theanine**, the antioxidant **NAC**, **inositol**, and the **omega-3 fatty acids**. You should also avoid caffeine.

Reward Yourself: Balance Dopamine

The effects of dopamine are more complex than those of norepinephrine, at least in regard to anxiety. In some ways, they have a similar function. Both tend to be energizing and aid in mental focus and concentration. Both can aggravate anxiety when levels are way too high. But dopamine has some beneficial effects against anxiety as well, such as improving motivation and the experience of pleasure. Unless dopamine becomes really excessive, your anxiety may improve if you gently boost your dopamine levels.

Signs of dopamine deficiency include feeling apathetic and fatigued, difficulty losing weight, feeling unmotivated (as with exercise), low sex drive, and general difficulty getting pleasure from things. If you have these signs along with anxiety, consider taking these measures to boost dopamine function: **B vitamins**, **omega-3 fatty acids**, **L-theanine**.



Soothe Yourself: Boost Serotonin

Nearly everyone feels better when their serotonin levels are optimal. It has such a wide array of functions, involved with everything from sleep to appetite to impulse control to sexual desire. It is the brain chemical that helps soothe us when we feel stressed or threatened, and it offers considerable protection to the brain against the damaging effects of cortisol.

Because it is such a key brain chemical, the signs of serotonin depletion are many: insomnia (or irregular circadian rhythms); craving sweets and other carbohydrates; frequent muscle aches and pains; impulsive behaviors; moodiness, especially sadness, anxiety, and irritability; feeling emotionally sensitive or vulnerable; feeling insecure, lacking self-confidence; and low stress tolerance.

Most people with anxiety, especially if their mood is low as well, may benefit by boosting their serotonin levels. Consider taking the following supplements: the amino acid **L-tryptophan** or the related precursor **5-HTP**, the hormone **DHEA**, the **B vitamins** and **vitamin D**, and **omega-3 fats**.

Protect Yourself: Take the Sting Out of Cortisol

Do you long for a stress-free life? Do you wish that your stress hormones would go away and not come back? Actually, you wouldn't want either of these, any more than you would want a life without pain. No one wants to be in pain all the time, but to be unable to feel pain at all creates a nightmare of its own. Likewise, if you were unable to mount a stress response, if your body suddenly became unable to produce the stress hormones, your physiology would collapse.

Stress is not the problem. It is unremitting stress and a constantly elevated level of cortisol that create the problems. The consequences can be severe. If it goes unchecked, elevated cortisol may cause weight gain, insulin resistance, or even type 2 diabetes; elevated blood pressure and coronary artery disease; memory problems and possibly dementia and other neurodegenerative diseases; and immune system problems, which may impair your body's ability to fend off diseases of all types, including autoimmune disorders and even cancers.³

It is crucial to protect yourself with some of the following supplements: the steroid hormone **DHEA**, which tones down the effects of cortisol; the **B vitamins**, which help keep homocysteine (a harmful

Supplement	Typical Dosage	Comments
L-theanine	100–200 mg twice daily.	Found in green tea; can be both calming and focusing.
5-HTP	50–100 mg up to three times daily.	Boosts serotonin. Helps anxiety and depression.
NAC	600 mg up to three or four times daily.	A potent antioxidant; recently shown to treat OCD.
Taurine	500 mg once or twice daily.	Improves glutamate/GABA function.
Inositol	500–1,000 mg two to three times daily (studies use 12–18 g per day).	Often considered a B vitamin, it can effectively treat panic, OCD, and phobic anxiety.
GABA	250–750 mg up to three times daily.	Does not cross easily into the brain, so other measures may have more effect on GABA.
DHEA	5–10 mg daily, up to 50 mg daily.	Get levels tested before taking.

amino acid associated with heart disease, depression, and anxiety) in check; antioxidants; and herbal adaptogens such as **rhodiola**. (See sidebar on page 46.)

The Therapeutic Supplements

In addition to the basic supplements (see table on page 47), there are several therapeutic supplements, summarized in the table above.

I consider these supplements to be medicinal, with stronger therapeutic effects than the basic supplements. I've listed them roughly in the order in which I recommend them for the treatment of anxiety, with my first choices listed at the top.

If you are taking medication already, be sure to talk with your doctor before adding any of the supplements from these categories. And if you are considering going off medication, remember never to stop your medication suddenly—always consult with your doctor about how to safely taper off any psychiatric medication.

L-theanine

L-theanine is an amino acid found in high concentrations in green tea. But you would have to consume an awful lot of it to get a therapeutic dose of theanine. You can get more by taking a green tea extract, but you can also take a supplement containing L-theanine alone, or in combination with other calming agents.

Researchers have found that it changes brain waves as measured on EEG, promoting the relaxed

and alert state associated with alpha waves.⁴ That makes it unusual because it can sharpen mental focus and calm anxiety at the same time.

L-theanine is one of my most common treatments for anxiety and may help any of the seven types of anxiety. It is usually taken in doses from **50 to 200 mg once or twice daily**. For severe anxiety, it may be taken three or four times per day. It is not habit-forming like so many anti-anxiety medications. There are no known drug interactions, but I recommend talking to your doctor before adding it to a medication.

5-HTP

While 5-HTP can also help sleep, it may be used during the daytime as well because it is not usually sedating. Considerable research has shown that 5-HTP can reduce anxiety, both general and panic, as well as improve mood.⁵

If you are already taking an SSRI, do not take 5-HTP without consulting your prescribing physician.

I usually recommend a starting dose of **50 mg daily**, increasing every few days as tolerated. Most people do well with **100–150 mg daily**, but the dose may safely go as high as **300 mg per day** if needed. It is usually best to take it divided into two or three doses throughout the day, but if it is sedating it may all be taken at night. However, a small number of people actually have trouble sleeping from 5-HTP, and should then take it early in the day.

It may be best absorbed if taken half an hour before meals, and that can also reduce carbohydrate cravings

for people who have them. But if that is a hassle or causes stomach upset, it is fine to take it with meals.

Editor's note: *Many people prefer using tryptophan combined with its essential cofactors lysine and niacinamide in lieu of 5-HTP. Tryptophan is better able to remain stable in the blood and cross the blood-brain barrier, where it is converted to serotonin. If 5-HTP converts to serotonin in the blood, this serotonin will not cross the blood-brain barrier.*

NAC

NAC is short for N-acetyl cysteine. It has been used for years in emergency rooms for patients who are at risk for liver damage from something they have ingested (such as the common pain medication acetaminophen). It protects the liver for the same reason it protects the brain: it works as a powerful antioxidant, boosting levels of the body's own primary antioxidant—glutathione.

As researchers have realized the connection between glutamate/GABA balance and anxiety conditions, they have begun experimenting with NAC. Recently, it has been used with one of the most complex anxiety illnesses—the spectrum of compulsive disorders (including OCD). Remarkably, researchers have found that this simple and inexpensive nutritional supplement works for such hard-to-treat problems as pathological gambling and compulsive hair-pulling (trichotillomania).⁶ Researchers at Yale are now conducting a placebo-controlled trial with patients whose OCD symptoms have not improved with other treatments.⁷



Tonic Herb: Rhodiola

A group of herbs known as *herbal adaptogens* or *tonic herbs* have long been used to strengthen immunity, improve energy, and enhance the body's ability to handle stress. My favorite for someone with stress, anxiety, or even depression is *Rhodiola rosea*, also known as arctic root.

Traditionally, rhodiola has been used to improve energy and mental focus, but recent studies have looked at its benefits with anxiety and depression.¹¹ A small study done at UCLA in 2008 showed that participants with general anxiety improved greatly on rhodiola, with minimal side effects.¹² It may work by improving serotonin and dopamine levels and counteracting the effects of cortisol.¹³

Look for an extract standardized to at least 3 percent rosavins and about 1 percent salidroside. A typical dosage is **100–250 mg** twice daily, with breakfast and dinner. While it usually improves anxiety and even sleep, it is usually best not to take it just before bedtime. If it feels energizing, take it early in the day, with breakfast and lunch.

Editor's Note: While it is generally considered safe for long-term use and is not known to interact with medications, rhodiola is contraindicated for individuals with bipolar disorder. Individuals diagnosed as bipolar, or who have a family history of bipolar disorder, should consult with a psychiatrist before taking rhodiola.

NAC typically comes in a dose of **600 mg** and may be taken **two or three times daily**. Some of my patients have had mild headaches or stomach upset, but it is generally well tolerated, especially if you take it with food.

Taurine

Taurine is an amino acid that increases glycine and GABA to calm the brain, and it also protects the brain by reducing the harmful effects of excess glutamate.⁸ You may be familiar with it, as it is added to some of the popular energy drinks such as Red Bull. Apparently the manufacturers see it as a means of further supporting someone during periods of extreme exertion, when taurine levels can become depleted. I don't recommend replenishing it through energy drinks, but you may calm your brain if you boost your taurine levels in safer ways.



Editor’s Note: The following table of basic supplements is recommended by Dr. Emmons to “support the brain and restore it to a more resilient state.” However, most **Life Extension**® members already include these supplements in their daily program.

THE RESILIENT SUPPLEMENT PLAN

The following table summarizes the supplements I recommend to support the brain and restore it to a more resilient state.

Supplement	Typical Dosage	Comments
Multivitamin or B complex	As directed on bottle. Aim for 25 mg of B6 twice daily as a rule of thumb.	If cost is a factor, you may choose a B complex.
Vitamin D3 (vitamin D3 is the easier form of vitamin D for the body to use)	2,000 IU from October through April. May reduce to 1,000 IU in summer, or stop if in the sun 15-20 minutes daily.	Consider getting your vitamin D level tested, especially if you live in the north and/or you have dark skin.
Omega-3: fish oil and/ or flaxseed	2,000-4,000 mg fish oil; may augment with 2 tablespoons ground flaxseed daily.	Fish oil is preferred, but vegetarians and the cost-conscious may use flaxseed.
Tonic herb: rhodiola	200 mg daily.	An herbal adaptogen, this may improve the body’s general response to stress.

Taurine is usually taken in doses of **500 mg one to three times daily**. It can cause slight drowsiness and if so may be taken at bedtime. It has also been known to reduce blood pressure, so you should use care if you are prone to hypotension or light-headedness. It may be taken with or without food.

Inositol

Inositol is often classified as a B vitamin, though technically it is not a vitamin since the body can produce it. Taken as a supplement, it has long been known to reduce general anxiety, panic, and OCD symptoms.

Researchers found inositol to be just as effective as a popular antidepressant for panic disorder, and participants tolerated it well even at massive doses up to 18 grams per day.⁹

Inositol is often recommended at a dose of about **1,500 mg daily**, though in studies it has been used at much higher doses. Its side effects are mild, including occasional nausea or diarrhea, dizziness, fatigue, and headache. There has been a report of inositol worsening bipolar disorder, and I do not recommend it if you have that condition.

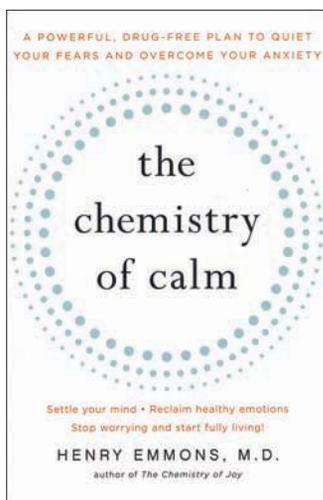
GABA

GABA has already been discussed as the neurotransmitter most responsible for calming down an overactive brain, and it is available as a nutritional supplement without prescription. Then why isn't it higher on my list of recommendations? If you take it by mouth, most of it gets broken down before it gets to the brain, so it is not as useful as you might think. Still, a portion of it does appear to get into the brain, and some of GABA's calming effects may occur in the rest of the body, as with muscle relaxation. It has been shown in human studies to help create a relaxed alpha brain wave pattern even more effectively than L-theanine, and also to boost immune function in individuals who were subjected to stress.¹⁰

GABA may be taken in doses as small as **100 mg twice daily**, up to **750 mg three times per day**. If drowsiness occurs, take it just at bedtime.

DHEA

Dehydroepiandrosterone or DHEA is a steroid hormone produced in the adrenal glands, where cortisol and adrenaline are also made. It can be converted into testosterone and estrogen, and levels of DHEA are higher in men than in women. More and more physicians are recommending it, particularly in midlife or beyond, when DHEA levels drop below normal. Some clinicians recommend doses up to **50 mg or more**. Levels can be monitored to be sure it doesn't get too high.



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References

1. B. Hassel and R. Dingledine, "Glutamate," in G. J. Siegel et al., eds., *Basic Neurochemistry: Molecular, Cellular and Medical Aspects* (Burlington, MA: Elsevier Academic Press, 2006).
2. A.H. Kim et al., "Blocking Excitotoxicity," in F. W. Marcoux and D. W. Choi, eds., *CNS Neuroprotection* (New York: Springer, 2002): 3-36.
3. R. Peled et al., "Breast Cancer, Psychological Distress and Life Events Among Young Women," *BMC Cancer* 8 (2008): 245.
4. K. Kobayashi et al., "Effects of L-Theanine on the Release of Alpha-Brain Waves in Human Volunteers," *Journal of the Agricultural Chemical Society of Japan* 72, no. 2 (1998): 153-157.
5. J. Lake, "Integrative Management of Anxiety," *Psychiatric Times* 25, no. 1 (January 2008): 13-16.
6. J. Grant et al., "N-Acetyl Cysteine, a Glutamate-Modulating Agent, in the Treatment of Pathological Gambling: A Pilot Study," *Biological Psychiatry* 62, no. 6 (2007): 652-657; J. Grant et al., "N-Acetylcysteine, a Glutamate Modulator, in the Treatment of Trichotillomania," *Archives of General Psychiatry* 66, no. 7 (July 2009): 756-763.
7. www.med.yale.edu/psych/clinics/OCD%20Research%20Clinic/N-acetylcysteine.htm.
8. M. Mori et al., "Beta-Alanine and Taurine as Endogenous Agonists at Glycine Receptors in Rat Hippocampus *in Vitro*," *Journal of Physiology* 539 (2002): 191-200; H. Wu et al., "Mode of Action of Taurine as a Neuroprotector," *Brain Research* 1038, no. 2 (March 2005): 123-131.
9. A. Palatnik et al., "Double Blind, Controlled, Crossover Trial of Inositol Versus Fluvoxamine for the Treatment of Panic Disorder," *Journal of Clinical Psychopharmacology* 21, no. 3 (2001): 335-339.
10. A. Abdou et al., "Relaxation and Immunity Enhancement Effects of Gamma- Aminobutyric Acid (GABA) Administration in Humans," *BioFactors* 26 (2006): 201-208.
11. V. Darbinyan et al., "Clinical Trial of *Rhodiola rosea* L. Extract SHR-5 in the Treatment of Mild to Moderate Depression," *Nordic Journal of Psychiatry* 61, no. 5 (2007): 343-348.
12. A. Bystritsky et al., "A Pilot Study of *Rhodiola rosea* (Rhodax) for Generalized Anxiety Disorder (GAD)," *Journal of Alternative and Complementary Medicine* 14, no. 2 (2008): 175-180.
13. F. Khanum et al., "*Rhodiola rosea*: A Versatile Adaptogen," *Comprehensive Reviews in Food Science and Food Safety* 4 (2005): 55-62.

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Since **Life Extension**® introduced CoQ10 in 1983, our scientists have continued to develop increased potency and absorbability.

Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ contains **PrimaVie**® shilajit which **doubles** levels of CoQ10 in the mitochondria.¹

Combining CoQ10 and **shilajit** produced a **56%** increase in cellular energy production in the **brain**, and in muscle there was a **144%** increase in cellular energy production.²

Shilajit boosts CoQ10's beneficial effects by stabilizing CoQ10 in the superior ubiquinol form, which *prolongs* its action at the cellular level.^{3,4} Additionally, **shilajit** facilitates the more efficient *delivery* of CoQ10 into the mitochondria, which results in enhanced cellular energy.⁵⁻⁹

Shilajit helps the mitochondria convert fats and sugars into the body's main source of energy, ATP (adenosine triphosphate).⁵⁻⁹

Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™

Combining ubiquinol CoQ10 with **shilajit** generates a powerful *synergy* that supports more youthful cellular energy production than CoQ10 alone.^{2,4,5}

References:

1. Systemic CoQ level in animals: Part II. Unpublished study. Natreon, Inc.; 2007.
2. *Pharmacologyonline*. 2009;1:817-25.
3. *Pharmacologyonline*. 2009;2:690-8.
4. *Electronic Journal of Biotechnology*. 2008 Jul 15;11(3).
5. Ghosal S. *Shilajit in Perspective*. Alpha Science International Limited; 2006.
6. *Sci Total Environ*. 1987 Apr;62:347-54.
7. *Environ Sci Technol*. 2002 Jul 15;36(14):3170-5.
8. *Environ Sci Technol*. 2002 May 1;36(9):1939-46.
9. *Environ Sci Technol*. 2009 Feb 1;43(3):878-83.

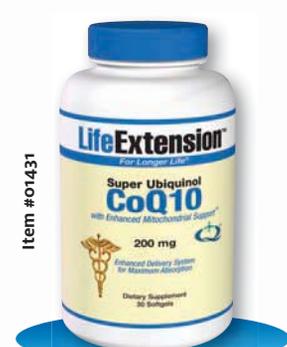
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The retail price for 60 100 mg softgels of **Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™** is \$62. If a member buys four bottles, the price is reduced to \$42 per bottle. **Item # 01426**



The retail price for 100 50 mg softgels of **Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™** is \$58. If a member buys four bottles, the price is reduced to \$39.75 per bottle. **Item # 01425**



The retail price for 30 200 mg softgels of **Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™** is \$62. If a member buys four bottles, the price is reduced to \$42 per bottle. **Item # 01431**

To order **Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™**
call 1-800-544-4440 or visit www.LifeExtension.com

MIGRA-EEZE™

Standardized Butterbur-Ginger-Riboflavin Formula



In Germany, doctors are recommending a natural extract from the herb **butterbur** to those who suffer from regular episodes of head cavity discomfort. In clinical trials in both Germany and the United States, **butterbur** reduced the incidence of head cavity discomforts by up to **61%**.^{1,2}

Butterbur's principal active constituent, **petasin**, reduces smooth muscle spasms and helps relax the constriction of cerebral blood vessels. **Butterbur's** ability to relax constricted arteries and smooth muscle may help control head cavity discomfort.

Life Extension's® **Migra-Eeze™** contains **butterbur** root extract standardized to provide 22.5 mg of **petasins** with each daily dose of two softgels. **Riboflavin** (vitamin B2) and **ginger** are included based on the ability of these nutrients to exert functional changes that may also guard against head cavity discomforts.

It is recommended that two softgels of Migra-Eeze™ be taken every day. Two softgels supply:

Butterbur (<i>Petasites hybridus</i>) CO ₂ Extract (root) [standardized to 15% petasins (22.5 mg)]	150 mg
Riboflavin (as riboflavin 5' phosphate)	380 mg
Riboflavin (as riboflavin 5' phosphate)	20 mg
Ginger (<i>Zinigiber officinale</i>) Extract (root) [standardized to 5% gingerols (12.5 mg)]	250 mg

To order Migra-Eeze™,
call 1-800-544-4440 or visit
www.LifeExtension.com

A 60-softgel bottle of **Migra-Eeze™** retails for \$29.50. If a member buys four bottles, the cost is reduced to just **\$19.75** per bottle—a savings of 33%!
Contains soybeans.

References

1. *Neurology*. 2004 Dec 28;63(12):2240-4.
2. *Int J Clin Pharmacol Ther*. 2000 Sep;38(9):430-5.



Item #00709

Experience Tranquility

Overstressed? Anxious? Losing sleep?

Left unchecked, the inner turmoil created by these issues can lead to *heart palpitations, muscle weakness, headaches, and even increased blood pressure.* You need to take action to halt these symptoms immediately.

Fortunately, **Life Extension®** has created **Natural Stress Relief**, a calming formula made with **lemon balm** and **L-theanine**, two ingredients **clinically proven** to help with *anxiety, insomnia, and overall mood.*^{1,3}

The **Cyracos® lemon balm extract** used in this product is prepared from a special lemon balm chosen for its high concentrations of *hydroxycinnamic* and *rosmarinic acids*. These potent constituents may be **mood enhancers** that *relieve everyday stress and alleviate sleep problems.*¹

L-theanine, an amino acid derived from green tea, is a natural relaxant that has been used by the Japanese for years. Those who have taken L-theanine compare it to a *massage, meditation session, and aromatherapy rolled into one.*²

Based on a tremendous amount of published data, Life Extension® combined these two ingredients with the idea of providing the ultimate calming experience. Try it today.

Each vegetarian capsule of **Natural Stress Relief** provides:

300 mg of **Cyracos® lemon balm extract**
200 mg of **Suntheanine® L-Theanine**

Note that the amount of L-theanine in this product is double that of most L-theanine stand-alone supplements. The reason for this potency increase is reports of greater benefit when at least **200 mg of L-theanine** are taken.

The retail price of a 30 count bottle of **Natural Stress Relief** is \$28. If a member buys four bottles, the price of this potent stress-relieving formula is reduced to just **\$18 per bottle.**

BWARE OF IMITATIONS The L-theanine used in the new Natural Stress Relief is Suntheanine®, the only pure form of L-theanine available worldwide and the only form protected by 40 internationally recognized patents and scientifically proven in clinical studies to be safe and efficacious. Independent laboratory analysis has verified that certain other products on the market claiming to contain "L-theanine" are only half L-theanine, the other half being a different form of theanine known as "D-theanine" that has not been scientifically evaluated in published studies. Suntheanine® is a registered trademark of Taiyo International, Inc. Use of Suntheanine® is protected by US Trademark Registration No. 2,548,957. Cyracos® is a registered trademark of Naturex, Inc.

References:

1. *Neuropsychopharmacology*. 2003 Oct;28(10):1871-81.
2. *J Herb Pharmacother*. 2006;6(2):21-30.
3. *Biochem Biophys Res Commun*. 2004 Jul 16;320(1):116-22.

Contains rice.

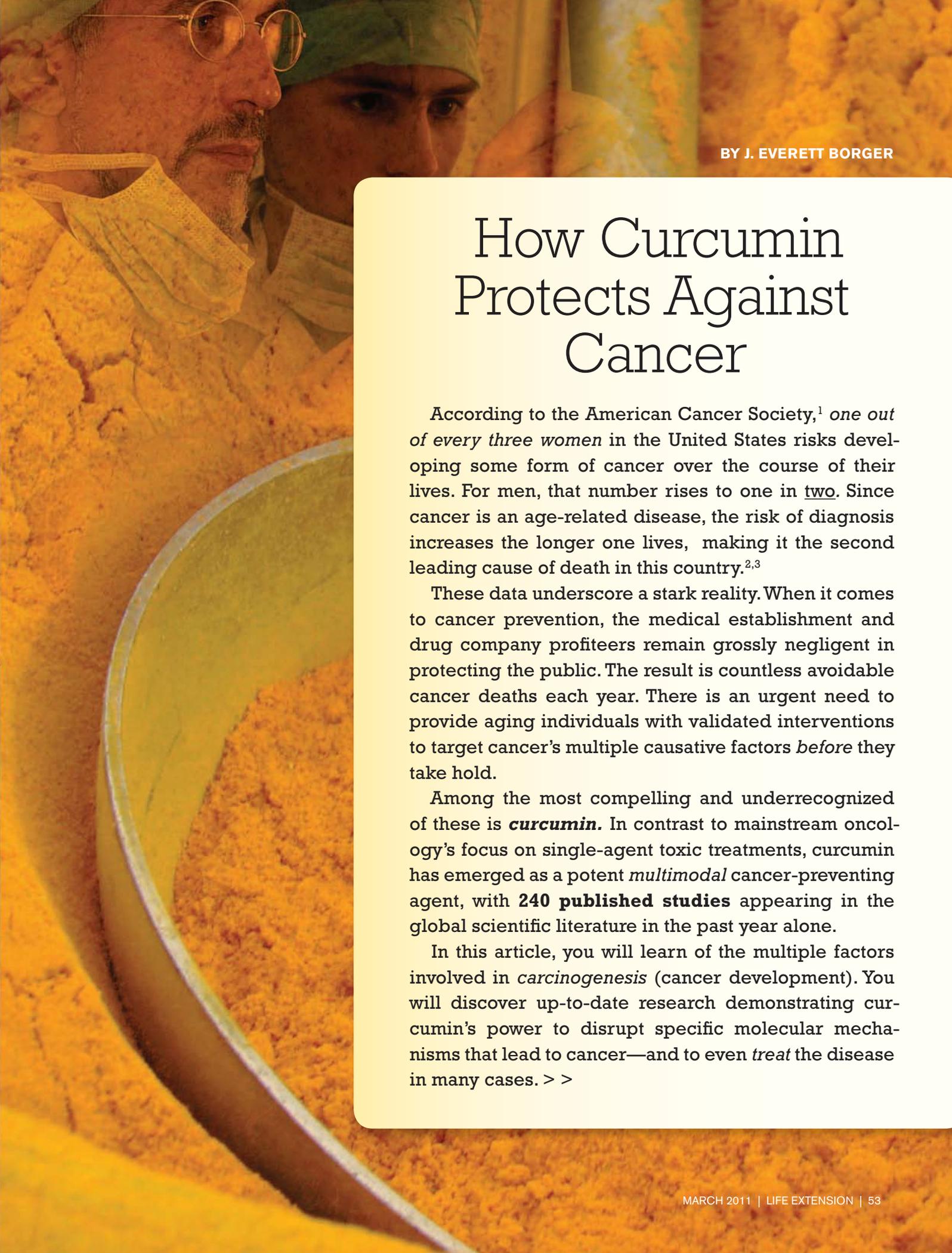


Item #00987

To order Natural Stress Relief
with Lemon Balm and L-Theanine,
call 1-800-544-4440 or visit
www.LifeExtension.com

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.





BY J. EVERETT BORGER

How Curcumin Protects Against Cancer

According to the American Cancer Society,¹ *one out of every three women* in the United States risks developing some form of cancer over the course of their lives. For men, that number rises to one in two. Since cancer is an age-related disease, the risk of diagnosis increases the longer one lives, making it the second leading cause of death in this country.^{2,3}

These data underscore a stark reality. When it comes to cancer prevention, the medical establishment and drug company profiteers remain grossly negligent in protecting the public. The result is countless avoidable cancer deaths each year. There is an urgent need to provide aging individuals with validated interventions to target cancer's multiple causative factors *before* they take hold.

Among the most compelling and underrecognized of these is **curcumin**. In contrast to mainstream oncology's focus on single-agent toxic treatments, curcumin has emerged as a potent *multimodal* cancer-preventing agent, with **240 published studies** appearing in the global scientific literature in the past year alone.

In this article, you will learn of the multiple factors involved in *carcinogenesis* (cancer development). You will discover up-to-date research demonstrating curcumin's power to disrupt specific molecular mechanisms that lead to cancer—and to even *treat* the disease in many cases. > >

System-Wide, Safe, Multimodal Defense

Curcumin is derived from the Indian spice turmeric and possesses several *active* components, all of which contribute to its anti-inflammatory and chemopreventive power.^{4,6} In fact, curcumin targets ten causative factors involved in cancer development.

Disrupting any one of these factors gives you a good chance of preventing cancer; disrupting *several* provides even greater protection, including the prevention of DNA damage.⁷

By blocking the inflammatory master molecule **nuclear factor-kappaB** (or **NF-kB**), curcumin *blunts* cancer-causing inflammation, slashing levels of inflammatory cytokines throughout the body.^{8,9} Curcumin *also* interferes with production of dangerous **advanced glycation end products** that trigger inflammation which can lead to cancerous mutation.¹⁰

Curcumin alters cellular signaling to enhance healthy *control* over cellular replication, which tightly regulates the cellular reproductive cycle, helping to stop uncontrolled proliferation of new tissue in tumors.¹¹ It promotes apoptosis in rapidly reproducing cancer cells without affecting healthy tissue¹¹⁻¹³ and reins in tumor growth by making tumors more vulnerable to **pharmacologic cell-killing treatments**.^{11,14}

In addition, curcumin regulates **tumor suppressor** pathways and triggers mitochondrial-mediated death in tumor tissue, thereby increasing the death of cancer cells.^{11,15}

Finally, curcumin interferes with tumor invasiveness and blocks molecules that would otherwise open pathways to penetration of tissue.² It also helps to starve tumors of their vital blood supply and it can oppose many of the processes that permit metastases to spread.^{8,16,17} These multi-targeted actions are central to curcumin's capacity to block multiple forms of cancer before they manifest.

Combating Deadly Cancers in Women

Breast cancers vary widely in their responsiveness to standard treatment. Cancers that depend on the hormone estrogen for survival are more effectively treated with conventional methods. Those that lack receptors for female hormones are far more resistant to treatment. This is where curcumin's value truly lies, because it has the ability to induce apoptosis (programmed cell death) in a variety of hormone-negative cancers.¹⁸⁻²⁰ Remarkably, curcumin produces virtually no change in healthy breast cells, with very low toxicity even at doses as high as **8,000 mg** daily.²¹



In human cancer patients, curcumin doses as high as **3,600 mg** a day have been shown to induce the following favorable anti-cancer effects:

- **Paraptosis.** A process similar to apoptosis (programmed cell death), curcumin initiates paraptosis *only* in breast cancer cells, resulting in their rapid destruction.²²
- **Targeted destruction of cancer-cell mitochondria** (leaving mitochondria in healthy cells unaffected).²²
- **Disruption of the cancer cell cycle.** Curcumin can “suspend” cancerous cells in a non-reproductive state within their life cycle, thereby halting their replication.^{20,23-25}
- **Cancer cell downregulation.** Curcumin blocks a group of molecules vital to the process of metastasis. In animal models, it has been shown to reduce metastatic spread to the lungs via this pathway.^{17,26,27}
- **Arrested stem cell development.** Curcumin inhibits growth and renewal of so-called cancer stem cells, aberrant cells now believed to be at the root of many cancers, including breast cancer.^{3,28}

Curcumin has also been shown to effectively combat **cervical cancer**, a leading cause of cancer death in women in developing nations and a common cancer in this country.²⁹ It is caused largely by infection with the human papilloma virus, or **HPV**. Curcumin's anti-inflammatory effects break the link that triggers HPV-induced cancer development.^{29,30}

Curcumin further promotes apoptosis of **cancer cells within the lining of the uterus** and reduces the growth rate of painful but non-malignant uterine leiomyomas (**uterine fibroids**).³¹⁻³⁴

Collectively, these effects make curcumin attractive both as a primary chemopreventive agent in women at risk for breast cancer and an adjuvant treatment option in those who have already developed the disease.^{20,21}

Prostate Cancer Defense

Prostate cancer is the second leading cause of cancer death in American men.^{35,44} Fortunately, its long latency period and slow growth rate make it a prime candidate for prevention.³⁶ Curcumin strikes at multiple targets in prostate malignancies, interfering with the spread of cancer cells and regulating inflammatory responses through the master regulator **NF-kB**.³⁶⁻³⁸

Like certain breast cancers, prostate cancer is often dependent on sex hormones for its growth. Curcumin reduces expression of sex hormone receptors in the prostate, which speeds androgenic breakdown and impairs cancer cells' ability to respond to the effects of testosterone.³⁹⁻⁴² It also inhibits cancer initiation and promotion⁴³ by blocking metastases from forming in the prostate and regulating enzymes required for tissue invasiveness.⁴⁴

Combating Gastrointestinal Cancers

Colorectal cancer is the third most common malignancy in adults and the second leading cause of cancer deaths.^{45,46} Despite aggressive surgical care and chemotherapy, **nearly 50% of people with colorectal cancers develop recurrent tumors**.⁴⁷ This may be due in part to the survival of dangerous **colon cancer stem cells** that resist conventional chemotherapy and act as "seeds" for subsequent cancers.^{3,48,49}

On the other hand, these cancers are excellent candidates for prevention, since they follow a predictable sequence from non-malignant polyps to full-blown cancerous growths, usually requiring a decade to develop.⁴⁶

Multimodal Anti-Cancer Power of Curcumin

- Curcumin has emerged as a potent cancer-preventing agent, with 240 published studies appearing in the global scientific literature in the past year alone.
- Its multimodal effects act to simultaneously counter ten discrete causative factors in cancer development.
- It intervenes at each stage in the complex sequence of events that enable cancer cells to develop, proliferate, and metastasize.
- Its multitargeted mechanisms of action have yielded compelling results in combating a remarkably broad array of cancers, including those of the breast, uterus, cervix, prostate, and GI tract.
- A blossoming body of research reveals curcumin's promise in countering cancers of the blood, brain, lung, and bladder as well.



Much as with malignancies of the breast, cervix, and prostate, curcumin *slows* the progression from colon polyp to cancer by damping down the inflammatory cascade triggered by NF-kB and pro-inflammatory cytokines.⁶ This halts the growth of cancer cells before they can become detectable tumors via a host of interrelated molecular mechanisms.^{50,51}

Curcumin also creates a gastrointestinal environment more favorable to optimal colon health by reducing levels of so-called **secondary bile acids**, natural secretions that contribute to colon cancer risk.⁵² That has a direct effect, inhibiting proliferation of cancer cells and further reducing their production.⁵³

Curcumin also suppresses colon cancer when combined with other polyphenols such as **resveratrol**.^{46,54} The combination of curcumin with green tea extracts has prevented experimentally induced colon cancer in rats.⁵⁵

Curcumin *also* synergizes with standard chemotherapy drugs, helping to boost their efficacy and potentially reduce the dose of toxic chemotherapy products, minimizing needless harm and suffering for cancer patients.^{45,47-49} Curcumin increases colon cancer cell response to radiation.⁵⁶

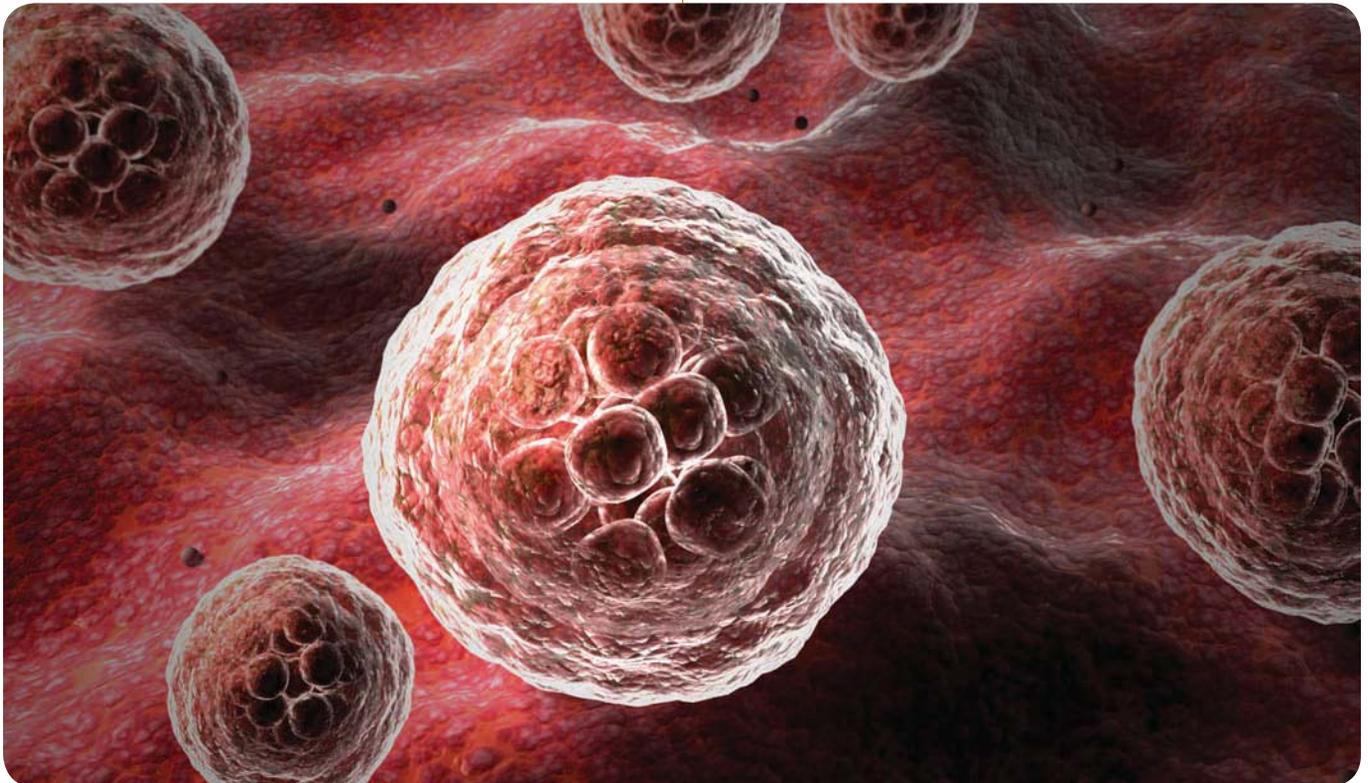
A novel feature of curcumin is its ability to bind to and *activate* vitamin D receptors in colon cells.⁵⁷ Vitamin D is known to exert potent anti-cancer properties.

Curcumin is equally powerful at preventing cancers in the stomach. It inhibits growth and proliferation of human gastric cancer cells in the laboratory and is particularly effective in stopping cancers that have become resistant to multiple drug treatment.⁵⁸⁻⁶⁰ Curcumin can prevent gastric cancer cells from progressing through their growth cycle, blocking further tumor growth.⁶⁰

Infection with the bacterium *Helicobacter pylori* (*H. pylori*) is a known cause of gastritis, peptic ulcer, and gastric cancer.⁶¹ Curcumin blocks growth of *H. pylori* and reduces the rate at which stomach cells react by turning cancerous.^{61,62} This effect is again related to curcumin's fundamental ability to block activation of inflammatory NF-kB.⁶²

Further Preventive Potential

Curcumin's anti-inflammatory, antioxidant, and gene-regulating powers have been explored in preventing or treating cancers of the blood-forming system (**leukemias**, **lymphomas**, and **myelomas**) as well as those of the **brain**, **lung**, and **bladder**.^{12,13,63-81} Even aggressive tumors of the head and neck, often following years of smoking, are proving responsive to curcumin treatment.^{14,82-85} Curcumin is also emerging as a potentially effective intervention for pancreatic cancer—one of cancer's most lethal and aggressive forms.⁸⁶⁻⁹⁰



Ten Key Causative Factors in Cancer Development

More than many other age-related diseases, cancer results from the cumulative effect of *years* of discrete, small-scale assaults on the body. Oxidation, inflammation, stress, infection, and other physiological insults take their toll, inflicting lethal damage over time that sets abnormal cell proliferation in motion.^{91,92}

1. DNA damage. Numerous biomolecular assaults strike at the “blueprint” that cells need in order to replicate themselves accurately. DNA damage is often referred to as the “initiator” in cancer development—the first step in the onset of most cancers.

2. Excessive or chronic inflammation. Inflammatory processes trigger the release of a host of disruptive **cytokines** (cell-signaling molecules) that affect virtually all cellular functions. Inflammation is commonly referred to as a cancer “promoter” for this reason.

3. Disruption of cell signaling pathways. Normal communication within and between cells assures proper regulation of their healthy function. These pathways are easily disrupted by adverse events such as inflammation.

4. Alterations in the cellular reproductive cycle. Cells undergo a four-stage process as they prepare to replicate themselves. The cell cycle itself is controlled by signaling pathways that can be altered or disrupted at each of these stages.

5. Abnormal regulation of apoptosis. Apoptosis is the process of naturally “pre-programmed” cell death that prevents overgrowth of tissue. When

apoptosis fails, cells may undergo uncontrolled reproduction.

6. Altered survival pathways. The flip side of unregulated apoptosis: survival of too many healthy cells, paradoxically, can endanger the host by permitting a cancer to take hold by increasing the odds of mutation and proliferation.

7. Excessive cellular proliferation. Certain hormones and other stimuli can directly trigger cells to reproduce without safe limits, especially when the preceding regulatory mechanisms have failed.

8. Aggressive invasion of healthy tissue. This is accomplished by excessive production of enzymes and adhesion molecules that “dissolve” tissue and allow the tumor to literally take root. The word “cancer” itself is derived from the **crab-like** appearance of fully-developed malignancies, which extend tendrils in all directions into healthy tissue.⁹³

9. Rapid angiogenesis. Tumors require growth of new blood vessels for nourishment. They are endowed with the capacity to spontaneously generate new blood vessels just like healthy tissue. Angiogenesis in cancer tissue is a primary means by which tumors grow.

10. Metastasis. This is the migration of cancerous cells to regions of the body beyond the locus of the primary tumor. Metastases are the distinguishing features of most malignant cancers, and the typically herald the onset of end-stage disease because they disrupt otherwise healthy tissues.

Summary

Cancer is the second leading cause of death in the US, and the risk of developing the disease increases significantly as we age.

Curcumin has emerged as a potent cancer-preventing agent, with 240 published studies appearing in the global scientific literature in the past year. Curcumin’s multimodal effects act to *simultaneously* counter ten discrete causative factors in cancer development.

It intervenes at each stage in the complex sequence of events that must occur in order for a cancer to develop, progress, invade, and ultimately metastasize to healthy tissue.

The multi-targeted mechanisms of curcumin have yielded compelling results in combating a remarkably



broad array of cancers, including those of the breast, uterus, cervix, prostate, and GI tract. A burgeoning body of research demonstrates curcumin's potential to counter cancers of the blood, brain, lung, and bladder as well. ●

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

References

1. Available at: <http://seer.cancer.gov/statfacts/html/all.html>. Accessed November 22, 2010.
2. Anand P, Sundaram C, Jhurani S, Kunnumakkara AB, Aggarwal BB. Curcumin and cancer: an "old-age" disease with an "age-old" solution. *Cancer Lett*. 2008 Aug 18;267(1):133-64.
3. Subramaniam D, Ramalingam S, Houchen CW, Anant S. Cancer stem cells: a novel paradigm for cancer prevention and treatment. *Mini Rev Med Chem*. 2010 May;10(5):359-71.
4. Jurenka JS. Anti-inflammatory properties of curcumin, a major constituent of *Curcuma longa*: a review of preclinical and clinical research. *Altern Med Rev*. 2009 Jun;14(2):141-53.
5. Goel A, Aggarwal BB. Curcumin, the golden spice from Indian saffron, is a chemosensitizer and radiosensitizer for tumors and chemoprotector and radioprotector for normal organs. *Nutr Cancer*. 2010 Oct;62(7):919-30.
6. Murphy EA, Davis JM, McClellan JL, Gordon BT, Carmichael MD. Curcumin's effect on intestinal inflammation and tumorigenesis in the Apc(Min/+) Mouse. *J Interferon Cytokine Res*. 2010 Oct 15.
7. Biswas J, Sinha D, Mukherjee S, Roy S, Siddiqi M, Roy M. Curcumin protects DNA damage in a chronically arsenic-exposed population of West Bengal. *Hum Exp Toxicol*. 2010 Jun;29(6):513-24.
8. Bachmeier BE, Killian P, Pfeffer U, Nerlich AG. Novel aspects for the application of Curcumin in chemoprevention of various cancers. *Front Biosci (Schol Ed)*. 2010 Jan 1;2:697-717.
9. Sikora E, Bielak-Zmijewska A, Mosieniak G, Piwocka K. The promise of slow down ageing may come from curcumin. *Curr Pharm Des*. 2010;16(7):884-92.
10. Sajithlal GB, Chithra P, Chandrakasan G. Effect of curcumin on the advanced glycation and cross-linking of collagen in diabetic rats. *Biochem Pharmacol*. 1998 Dec 15;56(12):1607-14.
11. Ravindran J, Prasad S, Aggarwal BB. Curcumin and cancer cells: how many ways can curry kill tumor cells selectively? *AAPS J*. 2009 Sep;11(3):495-510.
12. Zhang J, Du Y, Wu C, et al. Curcumin promotes apoptosis in human lung adenocarcinoma cells through miR-186* signaling pathway. *Oncol Rep*. 2010 Nov;24(5):1217-23.
13. Zhang J, Zhang T, Ti X, et al. Curcumin promotes apoptosis in A549/DDP multidrug-resistant human lung adenocarcinoma cells through an miRNA signaling pathway. *Biochem Biophys Res Commun*. 2010 Aug 13;399(1):1-6.
14. Clark CA, McEachern MD, Shah SH, et al. Curcumin inhibits carcinogen and nicotine-induced mammalian target of rapamycin pathway activation in head and neck squamous cell carcinoma. *Cancer Prev Res (Phila)*. 2010 Sep 17.
15. Cheng CY, Lin YH, Su CC. Curcumin inhibits the proliferation of human hepatocellular carcinoma J5 cells by inducing endoplasmic reticulum stress and mitochondrial dysfunction. *Int J Mol Med*. 2010 Nov;26(5):673-8.
16. Bar-Sela G, Epelbaum R, Schaffer M. Curcumin as an anti-cancer agent: review of the gap between basic and clinical applications. *Curr Med Chem*. 2010;17(3):190-7.
17. Wang L, Shen Y, Song R, Sun Y, Xu J, Xu Q. An anticancer effect of curcumin mediated by down-regulating phosphatase of regenerating liver-3 expression on highly metastatic melanoma cells. *Mol Pharmacol*. 2009 Dec;76(6):1238-45.
18. Al-Hujaily EM, Mohamed AG, Al-Sharif I, et al. PAC, a novel curcumin analogue, has anti-breast cancer properties with higher efficiency on ER-negative cells. *Breast Cancer Res Treat*. 2010 Aug 1.
19. Rowe DL, Ozbay T, O'Regan RM, Nahta R. Modulation of the BRCA1 protein and induction of apoptosis in triple negative breast cancer cell lines by the polyphenolic compound curcumin. *Breast Cancer*. 2009 Sep 2;3:61-75.
20. Banerjee M, Singh P, Panda D. Curcumin suppresses the dynamic instability of microtubules, activates the mitotic checkpoint and induces apoptosis in MCF-7 cells. *FEBS J*. 2010 Aug;277(16):3437-48.
21. Bayet-Robert M, Kwiatkowski F, Leheurteur M, et al. Phase I dose escalation trial of docetaxel plus curcumin in patients with advanced and metastatic breast cancer. *Cancer Biol Ther*. 2010 Jan;9(1):8-14.
22. Yoon MJ, Kim EH, Lim JH, Kwon TK, Choi KS. Superoxide anion and proteasomal dysfunction contribute to curcumin-induced paraptosis of malignant breast cancer cells. *Free Radic Biol Med*. 2010 Mar 1;48(5):713-26.
23. Sun A, Lu YJ, Hu H, Shoji M, Liotta DC, Snyder JP. Curcumin analog cytotoxicity against breast cancer cells: exploitation of a redox-dependent mechanism. *Bioorg Med Chem Lett*. 2009 Dec 1;19(23):6627-31.
24. Quiroga A, Quiroga PL, Martinez E, Soria EA, Valentich MA. Anti-breast cancer activity of curcumin on the human oxidation-resistant cells ZR-75-1 with gamma-glutamyltranspeptidase inhibition. *J Exp Ther Oncol*. 2010;8(3):261-6.
25. Hua WF, Fu YS, Liao YJ, et al. Curcumin induces down-regulation of EZH2 expression through the MAPK pathway in MDA-MB-435 human breast cancer cells. *Eur J Pharmacol*. 2010 Jul 10;637(1-3):16-21.
26. Boonrao M, Yodkeeree S, Ampasavate C, Anuchapreeda S, Limtrakul P. The inhibitory effect of turmeric curcuminoids on matrix metalloproteinase-3 secretion in human invasive breast carcinoma cells. *Arch Pharm Res*. 2010 Jul;33(7):989-98.
27. Ibrahim A, El-Meligy A, Fetaih H, Dessouki A, Stoica G, Barhoumi R. Effect of curcumin and Meriva on the lung metastasis of murine mammary gland adenocarcinoma. *In Vivo*. 2010 Jul-Aug;24(4):401-8.
28. Kakarala M, Brenner DE, Korkaya H, et al. Targeting breast stem cells with the cancer preventive compounds curcumin and piperine. *Breast Cancer Res Treat*. 2010 Aug;122(3):777-85.
29. Madden K, Flowers L, Salani R, et al. Proteomics-based approach to elucidate the mechanism of antitumor effect of curcumin in cervical cancer. *Prostaglandins Leukot Essent Fatty Acids*. 2009 Jan;80(1):9-18.
30. Prusty BK, Das BC. Constitutive activation of transcription factor AP-1 in cervical cancer and suppression of human papillomavirus (HPV) transcription and AP-1 activity in HeLa cells by curcumin. *Int J Cancer*. 2005 Mar 1;113(6):951-60.
31. Yu Z, Shah DM. Curcumin down-regulates Ets-1 and Bcl-2 expression in human endometrial carcinoma HEC-1-A cells. *Gynecol Oncol*. 2007 Sep;106(3):541-8.
32. Liang YJ, Hao Q, Wu YZ, Wang QL, Wang JD, Hu YL. Aromatase inhibitor letrozole in synergy with curcumin in the inhibition of xenografted endometrial carcinoma growth. *Int J Gynecol Cancer*. 2009 Oct;19(7):1248-52.
33. Malik M, Norian J, McCarthy-Keith D, Britten J, Catherino WH. Why leiomyomas are called fibroids: the central role of extracellular matrix in symptomatic women. *Semin Reprod Med*. 2010 May;28(3):169-79.
34. Tsuiji K, Takeda T, Li B, et al. Inhibitory effect of curcumin on uterine leiomyoma cell proliferation. *Gynecol Endocrinol*. 2010 Jul 30.
35. Available at www.cancer.org/cancer/prostatecancer/detailedguide/prostate-cancer-key-statistics. Accessed November 22, 2010.
36. Teiten MH, Gaascht F, Eifes S, Dicato M, Diederich M. Chemopreventive potential of curcumin in prostate cancer. *Genes Nutr*. 2010 Mar;5(1):61-74.
37. Piantino CB, Salvadori FA, Ayres PP, et al. An evaluation of the anti-neoplastic activity of curcumin in prostate cancer cell lines. *Int Braz J Urol*. 2009 May-Jun;35(3):354-60; discussion 61.

38. Khan N, Adhami VM, Mukhtar H. Apoptosis by dietary agents for prevention and treatment of prostate cancer. *Endocr Relat Cancer*. 2010 Mar;17(1):R39-52.
39. Thangapazham RL, Shaheduzzaman S, Kim KH, et al. Androgen responsive and refractory prostate cancer cells exhibit distinct curcumin regulated transcriptome. *Cancer Biol Ther*. 2008 Sep;7(9):1427-35.
40. Tsui KH, Feng TH, Lin CM, Chang PL, Juang HH. Curcumin blocks the activation of androgen and interleukin-6 on prostate-specific antigen expression in human prostatic carcinoma cells. *J Androl*. 2008 Nov-Dec;29(6):661-8.
41. Shi Q, Shih CC, Lee KH. Novel anti-prostate cancer curcumin analogues that enhance androgen receptor degradation activity. *Anticancer Agents Med Chem*. 2009 Oct;9(8):904-12.
42. Choi HY, Lim JE, Hong JH. Curcumin interrupts the interaction between the androgen receptor and Wnt/beta-catenin signaling pathway in LNCaP prostate cancer cells. *Prostate Cancer Prostatic Dis*. 2010 Dec;13(4):343-9.
43. Wan SB, Yang H, Zhou Z, et al. Evaluation of curcumin acetates and amino acid conjugates as proteasome inhibitors. *Int J Mol Med*. 2010 Oct;26(4):447-55.
44. Herman JG, Stadelman HL, Roselli CE. Curcumin blocks CCL2-induced adhesion, motility and invasion, in part, through down-regulation of CCL2 expression and proteolytic activity. *Int J Oncol*. 2009 May;34(5):1319-27.
45. Nautiyal J, Banerjee S, Kanwar SS, et al. Curcumin enhances dasatinib-induced inhibition of growth and transformation of colon cancer cells. *Int J Cancer*. 2010 Apr 19.
46. Patel VB, Misra S, Patel BB, Majumdar AP. Colorectal cancer: chemopreventive role of curcumin and resveratrol. *Nutr Cancer*. 2010 Oct;62(7):958-67.
47. Patel BB, Majumdar AP. Synergistic role of curcumin with current therapeutics in colorectal cancer: minireview. *Nutr Cancer*. 2009 Nov;61(6):842-6.
48. Yu Y, Kanwar SS, Patel BB, Nautiyal J, Sarkar FH, Majumdar AP. Elimination of colon cancer stem-like cells by the combination of curcumin and FOLFOX. *Transl Oncol*. 2009 Dec;2(4):321-8.
49. Patel BB, Gupta D, Elliott AA, Sengupta V, Yu Y, Majumdar AP. Curcumin targets FOLFOX-surviving colon cancer cells via inhibition of EGFRs and IGF-1R. *Anticancer Res*. 2010 Feb;30(2):319-25.
50. Milacic V, Banerjee S, Landis-Piwowar KR, Sarkar FH, Majumdar AP, Dou QP. Curcumin inhibits the proteasome activity in human colon cancer cells in vitro and in vivo. *Cancer Res*. 2008 Sep 15;68(18):7283-92.
51. Watson JL, Hill R, Yaffe PB, et al. Curcumin causes superoxide anion production and p53-independent apoptosis in human colon cancer cells. *Cancer Lett*. 2010 Nov 1;297(1):1-8.
52. Han Y, Haraguchi T, Iwanaga S, et al. Consumption of some polyphenols reduces fecal deoxycholic acid and lithocholic acid, the secondary bile acids of risk factors of colon cancer. *J Agric Food Chem*. 2009 Sep 23;57(18):8587-90.
53. Wang BM, Zhai CY, Fang WL, Chen X, Jiang K, Wang YM. The inhibitory effect of curcumin on the proliferation of HT-29 colonic cancer cell induced by deoxycholic acid. *Zhonghua Nei Ke Za Zhi*. 2009 Sep;48(9):760-3.
54. Majumdar AP, Banerjee S, Nautiyal J, et al. Curcumin synergizes with resveratrol to inhibit colon cancer. *Nutr Cancer*. 2009;61(4):544-53.
55. Xu G, Ren G, Xu X, et al. Combination of curcumin and green tea catechins prevents dimethylhydrazine-induced colon carcinogenesis. *Food Chem Toxicol*. 2010 Jan;48(1):390-5.
56. Sandur SK, Deorukhkar A, Pandey MK, et al. Curcumin modulates the radiosensitivity of colorectal cancer cells by suppressing constitutive and inducible NF-kappaB activity. *Int J Radiat Oncol Biol Phys*. 2009 Oct 1;75(2):534-42.
57. Bartik L, Whitfield GK, Kaczmarek M, et al. Curcumin: a novel nutritionally derived ligand of the vitamin D receptor with implications for colon cancer chemoprevention. *J Nutr Biochem*. 2010 Feb 11.
58. Koo JY, Kim HJ, Jung KO, Park KY. Curcumin inhibits the growth of AGS human gastric carcinoma cells in vitro and shows synergism with 5-fluorouracil. *J Med Food*. 2004 Summer;7(2):117-21.
59. Tang XQ, Bi H, Feng JQ, Cao JG. Effect of curcumin on multidrug resistance in resistant human gastric carcinoma cell line SGC7901/VCR. *Acta Pharmacol Sin*. 2005 Aug;26(8):1009-16.
60. Cai XZ, Wang J, Li XD, et al. Curcumin suppresses proliferation and invasion in human gastric cancer cells by downregulation of PAK1 activity and cyclin D1 expression. *Cancer Biol Ther*. 2009 Jul;8(14):1360-8.
61. De R, Kundu P, Swarnakar S, et al. Antimicrobial activity of curcumin against *Helicobacter pylori* isolates from India and during infections in mice. *Antimicrob Agents Chemother*. 2009 Apr;53(4):1592-7.
62. Zaidi SF, Yamamoto T, Refaat A, et al. Modulation of activation-induced cytidine deaminase by curcumin in *Helicobacter pylori*-infected gastric epithelial cells. *Helicobacter*. 2009 Dec;14(6):588-95.
63. Uddin S, Khan AS, Al-Kuraya KS. Developing curcumin into a viable therapeutic for lymphoma. *Expert Opin Investig Drugs*. 2009 Jan;18(1):57-67.
64. Vyas HK, Pal R, Vishwakarma R, Lohiya NK, Talwar GP. Selective killing of leukemia and lymphoma cells ectopically expressing hCGbeta by a conjugate of curcumin with an antibody against hCGbeta subunit. *Oncology*. 2009;76(2):101-11.
65. Xiao H, Zhang KJ, Zuo XL. Reversal of multidrug resistance of the drug resistant human multiple myeloma cell line MOLP-2/R by curcumin and its relation with FA/BRCA pathway. *Zhonghua Xue Ye Xue Za Zhi*. 2009 Jan;30(1):33-7.



66. Cotto M, Cabanillas F, Tirado M, Garcia MV, Pacheco E. Epigenetic therapy of lymphoma using histone deacetylase inhibitors. *Clin Transl Oncol*. 2010 Jun;12(6):401-9.
67. Kelkel M, Jacob C, Dicato M, Diederich M. Potential of the dietary antioxidants resveratrol and curcumin in prevention and treatment of hematologic malignancies. *Molecules*. 2010;15(10):7035-74.
68. Kikuchi H, Kuribayashi F, Kiwaki N, Nakayama T. Curcumin dramatically enhances retinoic acid-induced superoxide generating activity via accumulation of p47-phox and p67-phox proteins in U937 cells. *Biochem Biophys Res Commun*. 2010 Apr 23;395(1):61-5.
69. Sanchez Y, Simon GP, Calvino E, de Blas E, Aller P. Curcumin stimulates reactive oxygen species production and potentiates apoptosis induction by the antitumor drugs arsenic trioxide and lonidamine in human myeloid leukemia cell lines. *J Pharmacol Exp Ther*. 2010 Oct;335(1):114-23.
70. Zhang C, Li B, Zhang X, Hazarika P, Aggarwal BB, Duvic M. Curcumin selectively induces apoptosis in cutaneous T-cell lymphoma cell lines and patients' PBMCs: potential role for STAT-3 and NF-kappaB signaling. *J Invest Dermatol*. 2010 Aug;130(8):2110-9.
71. Chadalapaka G, Jutooru I, Chintharlapalli S, et al. Curcumin decreases specificity protein expression in bladder cancer cells. *Cancer Res*. 2008 Jul 1;68(13):5345-54.
72. Leite KR, Chade DC, Sanudo A, Sakiyama BY, Batocchio G, Srougi M. Effects of curcumin in an orthotopic murine bladder tumor model. *Int Braz J Urol*. 2009 Sep-Oct;35(5):599-606; discussion 06-7.
73. Chadalapaka G, Jutooru I, Burghardt R, Safe S. Drugs that target specificity proteins downregulate epidermal growth factor receptor in bladder cancer cells. *Mol Cancer Res*. 2010 May;8(5):739-50.
74. Tharakan ST, Inamoto T, Sung B, Aggarwal BB, Kamat AM. Curcumin potentiates the antitumor effects of gemcitabine in an orthotopic model of human bladder cancer through suppression of proliferative and angiogenic biomarkers. *Biochem Pharmacol*. 2010 Jan 15;79(2):218-28.
75. Purkayastha S, Berliner A, Fernando SS, et al. Curcumin blocks brain tumor formation. *Brain Res*. 2009 Feb 10.
76. Schaaf C, Shan B, Buchfelder M, et al. Curcumin acts as anti-tumorigenic and hormone-suppressive agent in murine and human pituitary tumour cells in vitro and in vivo. *Endocr Relat Cancer*. 2009 Dec;16(4):1339-50.
77. Bangaru ML, Chen S, Woodliff J, Kansra S. Curcumin (diferuloylmethane) induces apoptosis and blocks migration of human medulloblastoma cells. *Anticancer Res*. 2010 Feb;30(2):499-504.
78. Elamin MH, Shinwari Z, Hendrayani SF, et al. Curcumin inhibits the Sonic Hedgehog signaling pathway and triggers apoptosis in medulloblastoma cells. *Mol Carcinog*. 2010 Mar;49(3):302-14.
79. Schaaf C, Shan B, Onofri C, et al. Curcumin inhibits the growth, induces apoptosis and modulates the function of pituitary folliculostellate cells. *Neuroendocrinology*. 2010;91(2):200-10.
80. Su CC, Yang JS, Lu CC, et al. Curcumin inhibits human lung large cell carcinoma cancer tumour growth in a murine xenograft model. *Phytother Res*. 2010 Feb;24(2):189-92.
81. Wu SH, Hang LW, Yang JS, et al. Curcumin induces apoptosis in human non-small cell lung cancer NCI-H460 cells through ER stress and caspase cascade- and mitochondria-dependent pathways. *Anticancer Res*. 2010 Jun;30(6):2125-33.
82. Lin YC, Chen HW, Kuo YC, Chang YF, Lee YJ, Hwang JJ. Therapeutic efficacy evaluation of curcumin on human oral squamous cell carcinoma xenograft using multimodalities of molecular imaging. *Am J Chin Med*. 2010;38(2):343-58.
83. Rai B, Kaur J, Jacobs R, Singh J. Possible action mechanism for curcumin in pre-cancerous lesions based on serum and salivary markers of oxidative stress. *J Oral Sci*. 2010;52(2):251-6.
84. Shin HK, Kim J, Lee EJ, Kim SH. Inhibitory effect of curcumin on motility of human oral squamous carcinoma YD-10B cells via suppression of ERK and NF-kappaB activations. *Phytother Res*. 2010 Apr;24(4):577-82.
85. Wong TS, Chan WS, Li CH, et al. Curcumin alters the migratory phenotype of nasopharyngeal carcinoma cells through up-regulation of E-cadherin. *Anticancer Res*. 2010 Jul;30(7):2851-6.
86. Glienke W, Maute L, Wicht J, Bergmann L. Curcumin inhibits constitutive STAT3 phosphorylation in human pancreatic cancer cell lines and downregulation of survivin/BIRC5 gene expression. *Cancer Invest*. 2010 Feb;28(2):166-71.
87. Jutooru I, Chadalapaka G, Lei P, Safe S. Inhibition of NFkappaB and pancreatic cancer cell and tumor growth by curcumin is dependent on specificity protein down-regulation. *J Biol Chem*. 2010 Aug 13;285(33):25332-44.
88. Kanai M, Yoshimura K, Asada M, et al. A phase I/II study of gemcitabine-based chemotherapy plus curcumin for patients with gemcitabine-resistant pancreatic cancer. *Cancer Chemother Pharmacol*. 2010 Sep 22.
89. Lin L, Hutzen B, Zuo M, et al. Novel STAT3 phosphorylation inhibitors exhibit potent growth-suppressive activity in pancreatic and breast cancer cells. *Cancer Res*. 2010 Mar 15;70(6):2445-54.
90. Ramachandran C, Resek AP, Escal on E, Aviram A, Melnick SJ. Potentiation of gemcitabine by Turmeric Force in pancreatic cancer cell lines. *Oncol Rep*. 2010 Jun;23(6):1529-35.
91. Bengmark S. Curcumin, an atoxic antioxidant and natural NFkappaB, cyclooxygenase-2, lipooxygenase, and inducible nitric oxide synthase inhibitor: a shield against acute and chronic diseases. *JPEN J Parenter Enteral Nutr*. 2006 Jan-Feb;30(1):45-51.
92. Bengmark S, Mesa MD, Gil A. Plant-derived health: the effects of turmeric and curcuminoids. *Nutr Hosp*. 2009 May-Jun;24(3):273-81.
93. Argyle DJ, Blacking T. From viruses to cancer stem cells: dissecting the pathways to malignancy. *Vet J*. 2008 Sep;177(3):311-23.



Sweet DREAMS

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Healthy sleep is one of the best ways to feel revitalized and maintain optimal health. Increasingly, research has shown the health benefits of a good night's sleep. Melatonin is one of the most popular supplements for supporting sleep.

Now, pick the right melatonin for your needs with doses ranging from 300 mcg to 10 mg. For optimal results, melatonin should be taken within 30-60 minutes of going to sleep.



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Item # 00547
Contains rice.



Melatonin 3 mg
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Melatonin 300 mcg
100 time-release vegetarian capsules
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Melatonin 3 mg
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Members \$6
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Contains corn.



Melatonin 500 mcg
200 vegetarian capsules
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Melatonin 3 mg
60 time-release vegetarian capsules
Retail \$10.50
Members \$7.88
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Melatonin 750 mcg
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Retail \$5.75
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Natural Sleep 3 mg
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Melatonin 1 mg
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Retail \$5
Members \$3.75
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Natural Sleep Melatonin 5 mg
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Item # 01085
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Melatonin 10 mg
60 capsules
Retail \$28
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Contains rice.

Cautions: Do not use melatonin if you have asthma or an autoimmune disease. When using nutritional supplements, please consult with your physician if you are undergoing treatment for a medical condition or if you are pregnant or lactating. ChromeMate® is a registered trademark of Interhealth Nutritionals Inc.

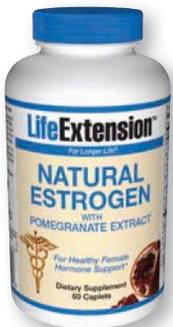
To order any of these premium-grade Melatonin supplements, call 1-800-544-4440 or visit www.LifeExtension.com

**FOR HEALTHY
FEMALE HORMONE SUPPORT**

NATURAL ESTROGEN

WITH POMEGRANATE EXTRACT

Item #00712



As women age, their natural production of **youth hormones** declines, which can give rise to unpleasant problems and accelerate various aging processes.

Estrogen confers a wide range of health benefits, such as helping to maintain firm skin and muscle tone, supporting healthy sexual function, producing greater feelings of well-being, and supporting cardiovascular and bone health.*

Concerned about the life-threatening side effects of estrogen drugs, many women deprive themselves of the benefits of natural hormone solutions.

Natural Estrogen with Pomegranate Extract contains standardized plant extracts that may help produce hormone-like modulating effects that are beneficial for most women over 40. This newly improved formula contains health-promoting phytoestrogens and polyphenols that confer

powerful hormone-modulating and DNA-protecting effects.

Natural Estrogen also provides the following complementary plant extracts:

- Black cohosh to mimic the safe estrogen “estriol”
- Licorice to facilitate natural estrogen synthesis
- HMRlignan™ extract to protect against some of estrogen’s unwanted effects
- Broccoli extract to help modulate estrogens and maintain healthy cell division
- Dong quai to balance estrogens and induce progesterone synthesis
- Vitex agnus-castus to establish hormone balance and suppress excess prolactin.

A bottle of 60 caplets of **Natural Estrogen with Pomegranate Extract** (a one-month supply) retails for \$38. If a Life Extension member orders four bottles, the price is reduced to only **\$24.75** per bottle.

Contains soybeans. Contains corn.



The recommended daily dose of two caplets provides:

SoySelect® soybean (<i>Glycine max</i>) 70:1 Extract [standardized to 13% isoflavones (52 mg), 18% Group-B Saponins (72 mg)]	400 mg
Broccoli (<i>Brassica oleracea L.</i>) Super Concentrate Extract (plant) [standardized to 4% glucosinolates (12 mg)]	300 mg
POMELLA® Pomegranate (<i>Punica granatum</i>) Extract (fruit) [standardized to 30% Punicalagins (60 mg)]	200 mg
Black cohosh extract (<i>Cimicifuga racemosa</i>) (root and stem) [standardized to 2.5% triterpene glycosides (1 mg)]	40 mg
HMRlignan™ Norway spruce (<i>Picea abies</i>) lignan extract (knot wood) [standardized to 90% Hydroxymatairesinol potassium acetate (27 mg)]	30 mg
Dong quai extract (<i>Angelica sinensis</i>) (root) [standardized to 1% ligustilide (.25 mg)]	25 mg
Licorice extract (<i>Glycyrrhiza glabra</i>) extract (root)	25 mg
Vitex extract (<i>Vitex agnus-castus</i>) extract (fruit) [standardized. to 5% flavonoids (1 mg)]	20 mg

Caution: Do not take in case of pregnancy, lactation, or estrogen-dependent tumors. SoySelect® is a registered trademark of Indena SpA. HMRlignan™ is a trademark used under sublicense from Linnea SA. POMELLA® Extract is covered under U.S. Patent 7,638,640 and POMELLA® is a registered trademark of Verdure Sciences, Inc.

**To order Natural Estrogen caplets, call 1-800-544-4440
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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.

The better Curcumin

For Optimal Absorption



How Much Curcumin Are You Absorbing?

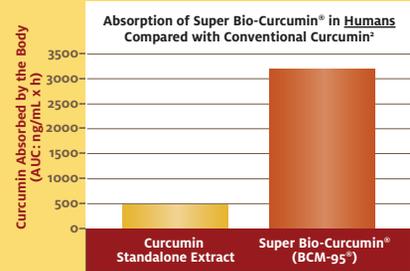


Chart 1. Super Bio-Curcumin® (BCM-95®) showed 6.9 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with conventional curcumin (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed by the body over 8 hours).

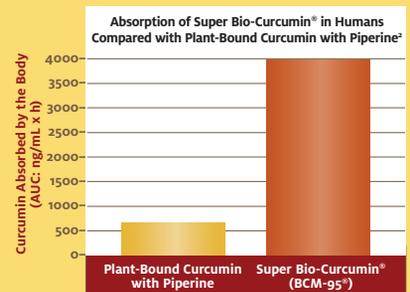


Chart 2. Super Bio-Curcumin® (BCM-95®) showed 6.3 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with plant-bound curcumin with piperine (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed by the body over 8 hours).

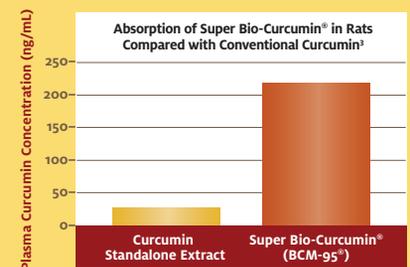


Chart 3. Bioavailability in rats fed with BCM-95® is 7.8 times higher than conventional curcumin.

In 2010, there were more than 160 published studies on curcumin. Every week, scientists discover new benefits of curcumin, such as reducing inflammation and promoting healthy DNA function.

Unfortunately, not all forms of curcumin are readily absorbed into the bloodstream. As a result, you may not be achieving peak blood levels of this vital nutrient.

Super Bio-Curcumin® is absorbed up to **seven times** more than regular curcumin.^{1,2}

The graphs on this page illustrate that just one **400 mg** capsule of **Super Bio-Curcumin®** can provide curcumin levels equivalent to ingesting **2,500-2,800 mg** of other curcumin supplements.

Additionally, **Super Bio-Curcumin®** can stay in the bloodstream almost twice as long as other curcumin supplements.

Life Extension®'s **Super Bio-Curcumin®** contains the newly patented BCM-95® turmeric compound. A bottle containing 60 **Super Bio-Curcumin® with BCM-95®** capsules retails for \$35. If a member buys four bottles, the price is reduced to just **\$24** per bottle. Each bottle will last most members two months.

References:

1. *Spice India*. 2006 Sept;19(9):11-5.
2. *Ind J Pharm Sci*. 2008 Jul-Aug;44:5-9.
3. Bioavailability study of BCM-95® in rats. Orcas International Inc. 2006.

**To order Super Bio-Curcumin®
with BCM-95®, call 1-800-544-4440
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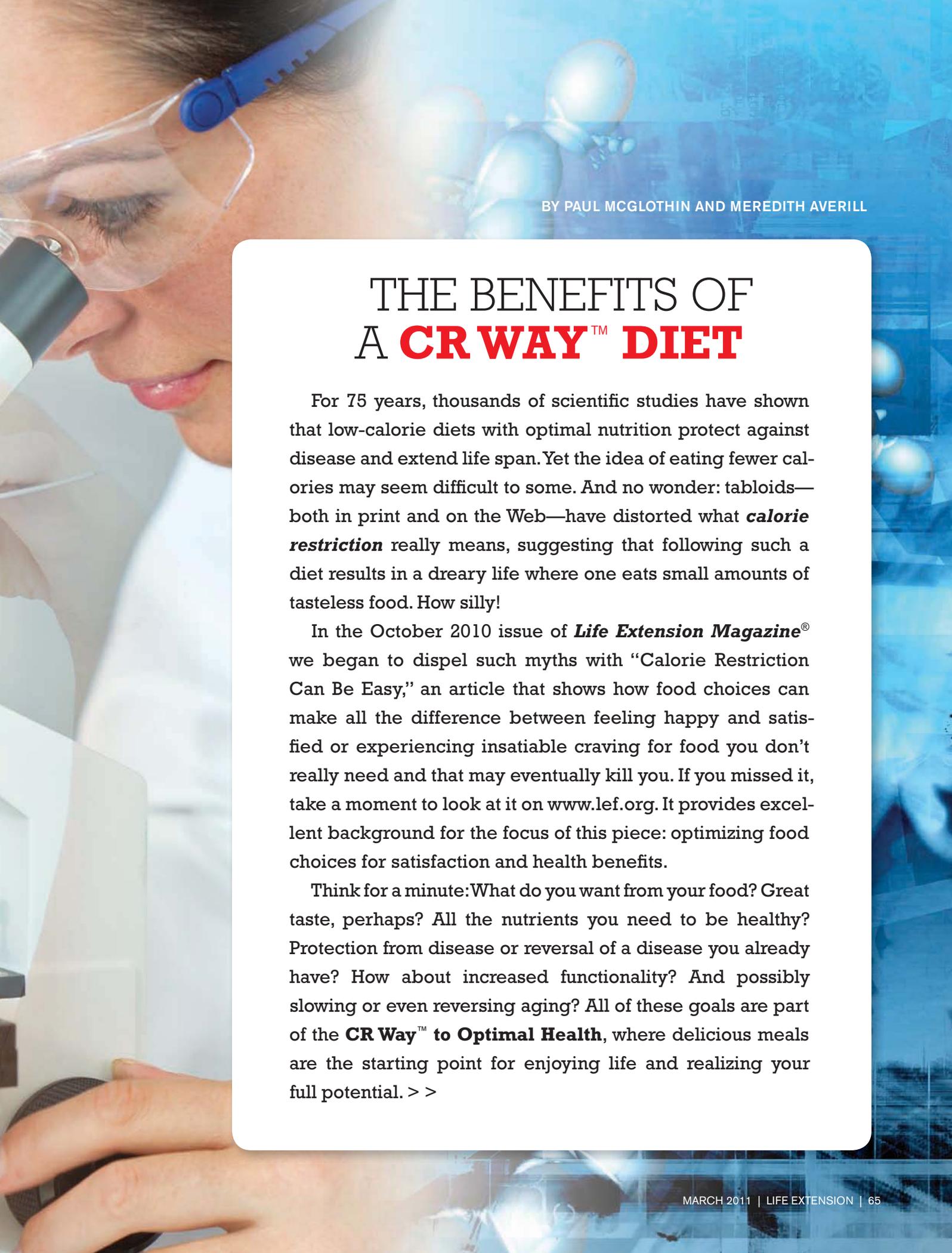
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Item #00407

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 woman in a white lab coat and blue safety goggles is looking through a microscope. The background is a blue-tinted collage of scientific images, including molecular models and laboratory equipment.

BY PAUL MCGLOTHIN AND MEREDITH AVERILL

THE BENEFITS OF A **CR WAY™** DIET

For 75 years, thousands of scientific studies have shown that low-calorie diets with optimal nutrition protect against disease and extend life span. Yet the idea of eating fewer calories may seem difficult to some. And no wonder: tabloids—both in print and on the Web—have distorted what *calorie restriction* really means, suggesting that following such a diet results in a dreary life where one eats small amounts of tasteless food. How silly!

In the October 2010 issue of *Life Extension Magazine*® we began to dispel such myths with “Calorie Restriction Can Be Easy,” an article that shows how food choices can make all the difference between feeling happy and satisfied or experiencing insatiable craving for food you don’t really need and that may eventually kill you. If you missed it, take a moment to look at it on www.lef.org. It provides excellent background for the focus of this piece: optimizing food choices for satisfaction and health benefits.

Think for a minute: What do you want from your food? Great taste, perhaps? All the nutrients you need to be healthy? Protection from disease or reversal of a disease you already have? How about increased functionality? And possibly slowing or even reversing aging? All of these goals are part of the **CR Way™ to Optimal Health**, where delicious meals are the starting point for enjoying life and realizing your full potential. > >

And here's proof that many CR recipes are easy to make—and take just a few minutes to prepare:

The CR Way™ Long-Life Cereal

Ingredients:

- 5 ounces wild rice (cooked *al dente*)
- Cinnamon (to taste)
- 1.4 ounces blueberries
- 1.6 ounces strawberries (approximately ¼ cup)
- .35 ounces pumpkin seeds
- .35 ounces walnuts (approximately 5 walnut halves)
- 2 teaspoons lime (or lemon) juice
- 1 teaspoon olive oil (extra virgin)
- ½ cup almond non-dairy beverage (unsweetened)



Complete Nutritional Values in One Serving of the CR Way™ Long-Life Cereal

NUTRIENT	VALUE	%DV	NUTRIENT	VALUE	%DV
Calories	366.36		Retinol (mcg)	0.00*	
Food Energy (kj)	1532.85		Carotene, beta (mcg)	39.88*	
Protein (g)	10.91	22%	Carotene, alpha (mcg)	0.00*	
Calories from Protein	41.76		Cryptoxanthin, beta (mcg)	0.00*	
% Calories from Protein	11.40		Lycopene (mcg)	0.00*	
Carbohydrates (g)	44.90	15%	Lutein+zeaxanthin (mcg)	116.80*	
Starch (g)	0.01*		Vit-A IU	69.82*	1%
Sugars (g)	8.16		Vit-B1 Thiamine (mg)	0.14*	10%
Glucose (g)	0.35*		Vit-B2 Riboflavin (mg)	0.19*	11%
Fructose (g)	0.35*		Vit-B3 Niacin (mg)	2.40*	12%
Galactose (g)	0.00*		Vit-B5 Pantothenic Acid (mg)	0.37*	4%
Sucrose (g)	0.75*		Vit-B6 Pyridoxine (mg)	0.29*	15%
Lactose (g)	0.00*		Total Folate (mcg)	55.83*	14%
Maltose (g)	0.00*		Folate, Food (mcg)	55.83*	
Dietary Fiber (g)	5.99	24%	Folic Acid (mcg)	0.00*	
Est. Net Carbs (g)	38.91		Folate, DFE (mcg DFE)	55.83*	
Calories from Carbohydrates	171.77		Vit-B12 Cyanocobalamin (mcg)	0.00*	0%
% Calories from Carbohydrates	46.89		Vit-H (mcg) Biotin	0.00*	0%
Fat (g)	17.76	27%	Vit-C (mg)	12.11*	20%
Saturated Fat (g)	2.24	11%	Vit-D (IU)	0.00*	0%
Trans Fat (g)	0.00*		Tocopherol, Alpha (mg)	0.62*	
Trans-Monoenoic Fat (g)	0.00*		Tocopherol, Beta (mg)	0.02*	
Trans-Polyenoic Fat (g)	0.00		Tocopherol, Gamma (mg)	3.99*	
Monounsaturated Fat (g)	6.09*		Tocopherol, Delta (mg)	0.19*	
Polyunsaturated Fat (g)	7.55*		Vit-E (IU)	0.43*	1%
Omega-3 (g)	1.10*		Vit-K (mcg)	12.46*	16%
Omega-6 (g)	6.11*		Calcium (mg)	29.36*	3%
Calories from Fat	152.83		Magnesium (mg)	116.92*	29%
% Calories from Fat	41.72		Phosphorus (mg)	272.64*	27%
Cholesterol (mg)	0.00	0%	Potassium (mg)	299.80*	
Alcohol (g)	0.00*		Sodium (mg)	96.80	4%
Calories from Alcohol	0.00		Chloride (mg)	0.00*	0%
% Calories from Alcohol	0.00		Chromium (mcg)	0.00*	0%
Ash (g)	1.33*		Copper (mg)	0.48*	24%
Water (g)	148.54*		Fluoride (mg)	0.00*	
Caffeine (mg)	0.00*		Iodine (mcg)	0.00*	0%
Theobromine (mg)	0.00*		Iron (mg)	2.71*	15%
Phytosterols (mg)	7.20*		Manganese (mg)	1.10*	55%
Stigmasterol (mg)	0.10*		Molybdenum (mcg)	0.00*	0%
Campesterol (mg)	0.70*		Selenium (mcg)	2.19*	3%
Beta-sitosterol (mg)	6.40*		Zinc (mg)	2.97*	20%
Vit-A (mcg RAE)	2.90*				

Values marked with a single asterisk (*) indicate totals with some values not available. This may result in an underreporting of values. Due to FDA rounding rules, discrepancies may occur between actual nutrient values and the values used on the Nutrition Facts labels. This detailed information is provided by the NutriBase CR Way™ Edition software, which provides a thorough analysis of all the nutrients.

Besides being able to put this scrumptious CR recipe together in seconds, you can even prepare it in advance and refrigerate it in a leak-proof portable container, so it's easy to take on your morning commute. Make sure to add the almond milk just before you leave so the ingredients remain crunchy, if that adds to your enjoyment.

Below are the basic **Nutrition Facts of the CR Way™ Long-Life Cereal**:

Nutrition Facts	
Serving Size: 1 serving (379.9g)	
Servings: 1	
Amount Per Serving	
Calories 370	Calories from Fat 160
% Daily Value*	
Total Fat 18g	25%
Saturated Fat 2g	10%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 95mg	4%
Total Carbohydrate 45g	15%
Dietary Fiber 6g	25%
Sugars 8g	
Protein 11g	
Vitamin A 2%	• Vitamin C 20%
Calcium 2%	• Iron 15%
*Percent Daily Values are based on a 2,000 calorie diet.	

As you can see, this recipe supplies only 370 calories, yet it is loaded with essential nutrients, including healthy amounts of vitamins C, K, and the Bs, along with minerals like magnesium, manganese, phosphorus, and even 20% of the daily value of zinc—a nutrient that is hard to come by.

Note that the software shows 7.2 mg of phytosterols, which are a likely reason that CR Way™ all-star foods like blueberries may have extraordinary benefits, such as cognitive enhancement and life extension in animal models.^{1,2} Other ingredients, like the strawberries, are also loaded with beneficial phytonutrients.³

When you prepare this, make sure that the strawberries and blueberries are organic, since both fruits absorb pesticides very easily. In fact, conventionally grown blueberries and strawberries have the dubious distinction of being listed among the “Dirty Dozen” on the Environmental Working Group’s 2010 Shopper’s Guide to Pesticides™.⁴

The Benefits of a CR Way™ Diet

- Seventy-five years of research demonstrates that low-calorie diets with optimal nutrition protect against disease and extend life span.
- Some people mistakenly believe that a calorie-restricted diet must be bland and arduous.
- The CR Way™ to Optimal Health provides a wealth of information on capturing the health and longevity benefits of calorie restriction while enjoying delicious foods.
- NutriBase CR Way™ Edition software helps track the calories and nutrients you consume each day, in order to ensure your success at adopting the principles of calorie restriction.
- CR Way™ recipes promote good health via numerous mechanisms, including decreasing the production of advanced glycation end products, providing heart-healthy fats, and maintaining healthy blood sugar levels through the use of low glycemic index foods.



Low Glycemic Effect

A fundamental aspect of this and every CR Way™ recipe is that it has a minimal effect on blood glucose. Most of the carbohydrate sources included in this recipe rank on the low end of the glycemic index (GI), which ranks foods according to their effect on blood glucose levels.⁵ The lime juice, nuts, and olive oil also have a favorable effect on blood glucose.

Heart-Healthy Fat

Another important characteristic of this CR Way™ recipe is its heart-healthy fats. Two of its principal fat sources—walnuts and olive oil—are known for their beneficial cardiovascular effects.^{6,7}

Keeping AGEs Low

Notice that this recipe requires very little cooking. The ingredients that are cooked are heated only until *al dente* (slightly firm). This minimizes the cross-linking of proteins and sugars that results in AGEs (advanced glycation end products), another name for biological garbage that accumulates in the body when foods are eaten that have been cooked at high heat or for a long time or with very little water. Once AGEs are in the body, getting them out is virtually impossible, while the possibility of disease increases.⁸ CR Way™ advice: when you cook foods, cook them for short periods at low heat with lots of water—blanching or steaming rather than frying or searing, for example.



The CR Way™ Long-Life Cereal is one of dozens of recipes available through the **CR Way™ to Optimal Health**, a program offered by the **Life Extension Foundation®**. This program includes the **NutriBase CR Way™ Edition** software, downloaded to your computer—giving you the best tool to manage your lifestyle for better health.

Some people believe that calorie restriction research showing life extension in mice is not applicable to humans. Try telling that to Okinawan elders, likely the world's longest-lived people, whose low-calorie lifestyle has been studied extensively by gerontology experts.⁹ Or try convincing Walter Breuning, the world's oldest man, who at 114 follows a CR Way™ eating schedule exactly the same as ours—preferring to eat only two meals a day.

The fact is, humans have tremendous advantages over mice—one of them being that we are free to choose delicious foods that add to the benefits of following a low-calorie, nutrient-dense diet. The CR Way™ Long-Life Cereal is just one example. Imagine eating that well at every meal. Soon your life would be transformed. Afflictions like heart disease and cancer are suddenly less likely, while your energy soars. Chances are good that you would live a longer, better life. ●

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

References

1. Andres-Lacueva C, Shukitt-Hale B, Galli RL, Jauregui O, Lamuela-Raventos RM, Joseph JA. Anthocyanins in aged blueberry-fed rats are found centrally and may enhance memory. *Nutr Neurosci*. 2005 Apr;8(2):111-20.
2. Wilson MA, Shukitt-Hale B, Kalt W, Ingram DK, Joseph JA, Wolkow CA. Blueberry polyphenols increase lifespan and thermotolerance in *Caenorhabditis elegans*. *Aging Cell*. 2006 Feb;5(1):59-68.
3. Meyers KJ, Watkins CB, Pritts MP, Liu RH. Antioxidant and antiproliferative activities of strawberries. *J Agric Food Chem*. 2003 Nov 5;51(23):6887-92.
4. Available at: <http://static.foodnews.org/pdf/EWG-shoppers-guide.pdf>. Accessed December 3, 2010.
5. Available at: <http://www.glycemicindex.com/>. Accessed December 2, 2010.
6. Ros E. Nuts and novel biomarkers of cardiovascular disease. *Am J Clin Nutr*. 2009 May;89(5):1649S-56S.
7. Shukla SK, Gupta S, Ojha SK, Sharma SB. Cardiovascular friendly natural products: a promising approach in the management of CVD. *Natural Product Research*. 2010 May;24(9):873-98
8. McGlothlin P, Averill M. Glucose control: the sweet spot in longevity. In: McGlothlin P, Averill M. *The CR Way: Using the Secrets of Calorie Restriction for a Longer, Healthier Life*. New York, NY: HarperCollins; 2008:57-78.
9. Willcox BJ, Willcox DC, Todoriki H, et al. Caloric restriction, the traditional Okinawan diet, and healthy aging: the diet of the world's longest-lived people and its potential impact on morbidity and life span. *Ann N Y Acad Sci*. 2007 Oct;1114:434-55.



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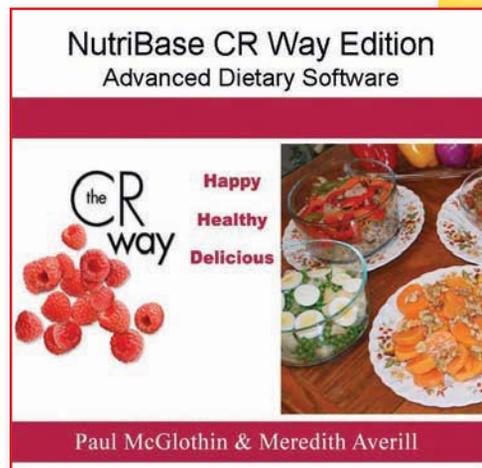
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CR Way™ experts Paul McGlothlin & Meredith Averill help you achieve your goals for better health. Join these renowned leaders of calorie restriction research and practice for twice-monthly live teleconferences where you get the answers you need.

Advanced dietary software!

You receive the NutriBase CR Way Edition Software, the advanced diet and lifestyle manager that downloads in minutes to your home computer. Delicious recipes and "Foods to Choose" come preloaded.

Use it to help activate your longevity biochemistry as well as improve your heart health, prevent or fight major diseases, lower blood sugar, manage exercise, make it easy to lose weight, and even improve your mood.



Full access to life-transforming content on LivingTheCRWay.com

The CR Way To Peak Performance

Your diet and lifestyle coach for performing at your best .

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A blueprint for improving your brainpower.

Long, Healthy Life

Introduction to the beneficial cellular changes that the CR Way is based on.

A Happier You

Strategies to relieve your stress and increase your happiness.

Protection From Disease

Help in preventing or fighting cancer, diabetes, and heart, kidney, and Alzheimer's diseases—and tracking the research for proof of more!

Science Behind the Benefits

Description of the solid science that supports (and explains) the benefits.

The Longevity Guide

Pointers for your becoming a centenarian.

Quick-start guide speeds you on your way happily!

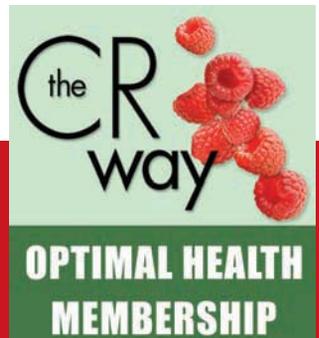
You get online access to the CR WAY TO HAPPY DIETING, which shows you how to use your food and lifestyle to increase happiness, making a healthful diet fun and satisfying to follow. Using the quick-start guide lowers your stress and helps you avoid disease, too. This resource even offers a CR WAY TO FAST FOODS Meal Plan for busy people who have no time to prepare food, but don't want to sacrifice their health.

If you've priced top-level software packages, teleconferences with experts, electronic diet guides, and membership Websites—you probably imagine that the CR Way Optimal Health Membership costs thousands of dollars per year. Instead, we welcome you to get it all for \$195!

Begin your journey to a longer, healthier life!

Order your first year's **CR WAY OPTIMAL HEALTH MEMBERSHIP**

Call 1-800-544-4440 or visit www.LifeExtension.com/CR



Assert **Control** over the Calories You Eat!

Would you spend hours at the beach *without* wearing sunglasses and sun protection lotion? The answer should be a resounding no!

Yet most aging individuals do little to protect their bodies against the excess calories they ingest each day.

Few of us realize the deadly impact that large meals inflict. For instance, chronic overeating results in our bloodstreams being bloated with **glucose, insulin, and triglycerides** long after a meal is finished. This occurs not only because we *absorbed* too many calories, but also from the age-associated impairment to our internal regulators of carbohydrate and fat metabolism. This helps explain why, with advancing age, we tend to accumulate unwanted body weight even as we try to cut down on food intake and exercise more.

The good news is that scientists have identified documented methods to reduce the toxic damage from excess calorie intake by taking the proper nutrients before heavy meals.

Comprehensive Calorie Management

The **Calorie Control Weight Management Formula** is designed to be taken before the two heaviest daily meals to help neutralize the dangers of caloric excess. The ingredients were chosen based on scientific findings that age-associated fat accumulation is at least partially caused by the loss of one's metabolic capacity to utilize ingested calories. Each scoop of this good-tasting powdered drink mix contains:

1. A proprietary fiber called **LuraLean**® that swells in the stomach after ingestion with water to help reduce calorie consumption. LuraLean® binds to **bile acids** in the small intestine and helps transport them out of the body. These bile acids otherwise facilitate the digestion and assimilation of **dietary fat** into the bloodstream. LuraLean® also slows the rapid emptying of ingested food into the small intestine, thereby reducing the surge of **glucose** entering the bloodstream. LuraLean® works better than other fibers because its own enzymes have been removed, thus sparing it from degradation in the digestive tract. This enables LuraLean® to form a stable *viscous barrier* to help impede calorie absorption and maintain its sponge-like activity throughout the digestive tract. In placebo-controlled studies, LuraLean® has induced weight loss along with significant reductions in fasting lipid and post-meal glucose/insulin levels.
2. A white kidney bean extract called **Phaseolus vulgaris** that inhibits the *amylase* enzyme in the digestive tract. *Amylase* breaks down carbohydrates that are then absorbed into the bloodstream as glucose. *Phaseolus vulgaris* has produced weight loss and abdominal fat reductions, along with significant reductions of triglycerides, in placebo-controlled trials.
3. An African plant extract called **Irvingia gabonensis** that favorably regulates **leptin** to decrease appetite and facilitate triglyceride removal from adipocytes; inhibits **glycerol-3-phosphate dehydrogenase** to reduce fatty acid storage in adipocytes; and up-regulates **adiponectin** to facilitate insulin sensitivity. Irvingia has demonstrated favorable weight loss results in placebo-controlled trials.
4. A proprietary **green tea phytosome** that absorbs much better into the bloodstream to boost *resting metabolic rate*. In a controlled clinical study, this green tea phytosome induced **30.1 pounds** of weight loss on average in 90 days when combined with a reduced calorie diet.

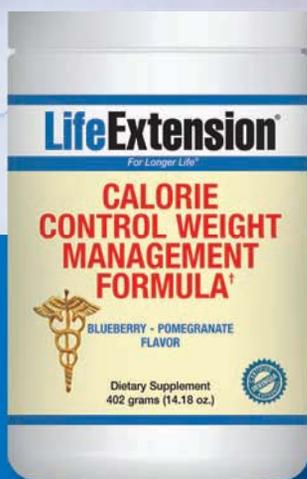
Life-Saving Importance of Taking Calorie Control Weight Management Formula Before Heavy Meals

Once we accept the danger that each surplus calorie poses to our aging body, it becomes easy to understand the critical need to impede the absorption and effects of ingested foods by taking the **Calorie Control Weight Management** formula before the two heaviest meals of the day.

The retail price for a one month (60-serving) supply of **Calorie Control Weight Management** is \$56. If a member buys four jars, the price is reduced to **\$36**. If eight jars are purchased the member price is slashed to only **\$33** per jar. This is the lowest price the propriety ingredients contained in this good-tasting powder formula has ever sold for!

Contains soybeans, tree nuts, and corn.
LuraLean® is a registered trademark of AHD International LLC.
This supplement should be taken in conjunction with a healthy diet and regular exercise. Results may vary

CAUTION: Take at least two hours apart from medications. Because this product may lower blood glucose, consult with your healthcare provider before taking this product if you are taking blood glucose lowering medication. Taking fiber products without enough liquid may cause choking. Consult your healthcare provider before taking this product if you have difficulty swallowing or have esophageal narrowing.



Item #01493

To order the Calorie Control Weight Management today,
call 1-800-544-4440 or visit www.LifeExtension.com/calorie-control

Activate Your Longevity Genes with CALORIE RESTRICTION MIMETIC LONGEVITY FORMULA

Scientists have *intensely* focused on finding out how **calorie restriction** so radically extends life span.

In response to reduced **calorie intake**, beneficial “youth” genes are **activated** while detrimental “senescence” genes are **disabled**. These favorable **gene expression** changes play a critical role in the ability of calorie restriction to slow aging.

The incredible news is that a select group of nutrients has been discovered that trigger many of the same favorable mechanisms (including more youthful **gene expression** patterns) as **caloric restriction**.

Among the most promising **caloric restriction mimics** and enhancers are **resveratrol, pterostilbene, quercetin, and grape seed polyphenols**, along with **black tea extract**. These nutrients have been shown to generate many of the same effects in the body as caloric restriction, without significant dietary modification.¹⁻⁸ In particular, they help “mimic” caloric restriction’s favorable impact on **genes** that influence the aging process.¹⁻⁸

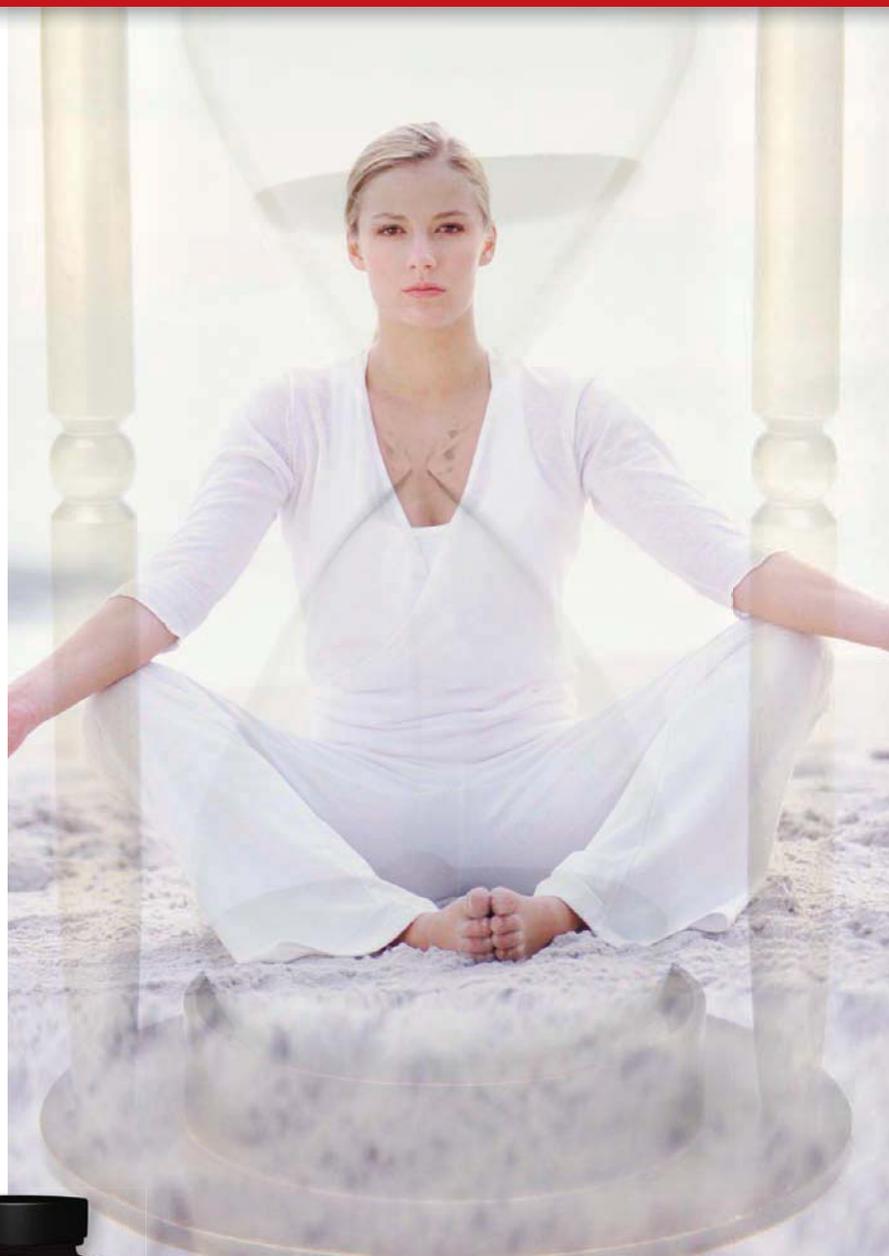
CR Mimetic Longevity Formula includes **resveratrol, pterostilbene, quercetin, grape seed polyphenols, black tea extract, and fisetin** to provide even broader-spectrum gene expression support in one nutritional compound. The suggested dose of two capsules each day of **CR Mimetic Longevity Formula** provides:

Trans-Resveratrol	250 mg
Trans-Pterostilbene	3 mg
Quercetin	150 mg
Black tea extract	300 mg
Grape seed polyphenols	50 mg
Fisetin	48 mg

A bottle containing 60 vegetarian capsules of **CR Mimetic Longevity Formula** retails for \$39. If a member buys four bottles, the cost is reduced to **\$27** per bottle.



Item #01429



To order **CR Mimetic Longevity Formula**
call **1-800-544-4440**
or visit to **www.LifeExtension.com**

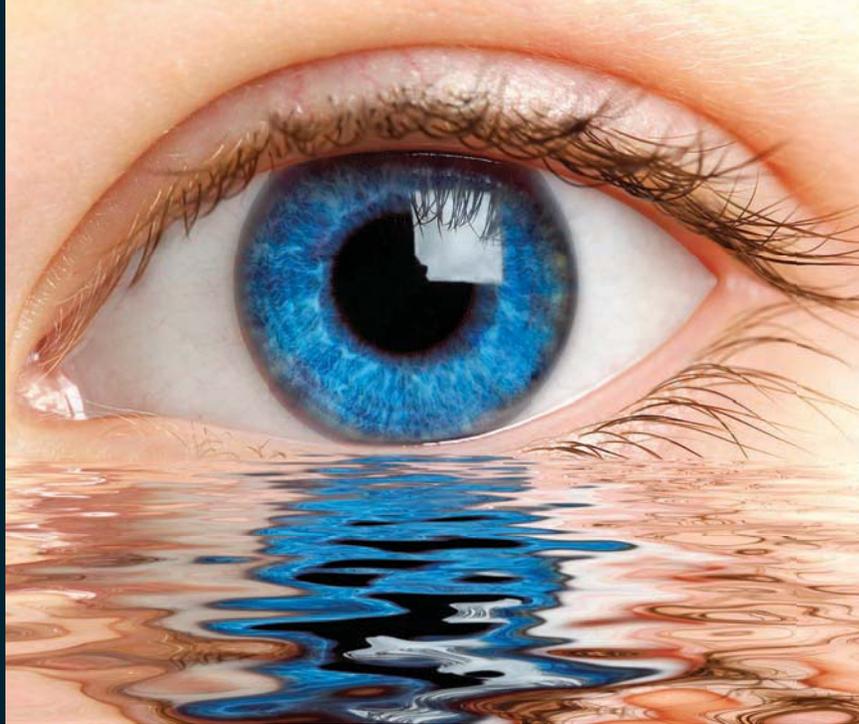
Note: Those taking other **resveratrol** products may consider switching to **CR Mimetic Longevity Formula**.

REFERENCES

1. *Cell*. 2006 Dec 15;127(6):1109-22.
2. *Endocrinology*. 2008 Jan;149(1):84-92.
3. *Crit Care Med*. 2004 Oct;32(10):2097-103.
4. *J Agric Food Chem*. 1999 Apr;47(4):1416-21.
5. *Arch Pharm Res*. 2002 Oct;25(5):561-71.
6. *Nutr Cancer*. 1999;35(1):80-6.
7. *Anticancer Agents Med Chem*. 2006 Sep;6(5):389-406.
8. *Nature*. 2006 Nov 16;444(7117):337-42.

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.

C3G is now in your EYE PROTECTION FORMULA



Most **Life Extension**® members take a supplement containing zeaxanthin, lutein, meso-zeaxanthin, and astaxanthin to protect their vision.

With new findings that **C3G** (*cyanidin-3-glucoside*) can **enhance night vision**, it makes sense to add this unique berry extract to the **Super Zeaxanthin** formula. This enables members to obtain the **optimal amount** of **C3G** without having to swallow another capsule.

Maintain Macular Density

The **macular pigment** is composed of lutein, zeaxanthin, and meso-zeaxanthin. The **density** of the macula is essential to proper vision. Macular density declines naturally over time.

Eating lots of lutein- and zeaxanthin-containing vegetables can help maintain the structural integrity of the macula. However, since **meso-zeaxanthin** is not part of the typical diet, it cannot be easily replaced. Young people convert lutein into meso-zeaxanthin inside their macula. Some aging people, however, lose their ability to convert lutein into **meso-zeaxanthin**.

The **Super Zeaxanthin** formula provides **zeaxanthin, lutein and meso-zeaxanthin** to help maintain macular density.

Combat "Eye Fatigue"

Staring at a fixed-distance object such as a computer screen for a long period of time can cause the muscles that focus your eyes (called the ciliary body) to tire or go into spasm. This can result in physical symptoms such as head discomfort, sensitivity to glare, tiredness, soreness, dryness, and blurry vision.

Super Zeaxanthin contains a potent dose of **astaxanthin**, a carotenoid found in red algae. Studies show that taking astaxanthin with other carotenoids protects against free radical induced DNA damage, repairs UVA-irradiated cells, and inhibits inflammatory cell infiltration.¹⁻⁴ Astaxanthin also helps support vascular health within the eye and improves visual acuity.³ Its fat-soluble nature offers protection to sensitive cells inside the eye.⁵

Enhanced Night Vision!

Falling down is responsible for **70%** of accidental deaths in older people.⁶ Poor lighting conditions are often the culprit.

Fortunately, **C3G** derived from **black currant** supports eyesight in **dark** conditions by promoting the healthy function of delicate structures within the retina that support **night vision**.⁷

Super Zeaxanthin now contains a potent dose of **C3G** to nourish cells throughout the body.

Comprehensive Ocular Protection in One Daily Capsule

The new **Super Zeaxanthin** formula provides natural plant extracts that have been shown to promote healthy eyesight. Just **one** softgel of **Super Zeaxanthin with Lutein, Meso-Zeaxanthin Plus Astaxanthin and C3G** provides:

OptiLut®, **Lutein Plus®** and **MZ®** **38 mg**
Marigold (*Tagetes erecta*) Extract (flower)
[free lutein equivalent 10 mg]

Zeaxanthin & Meso-zeaxanthin blend **3.75 mg**
(micronized zeaxanthin, **OptiLut®**, **Lutein Plus®**
and **MZ®** Marigold Extract)

Natural Astaxanthin **6 mg**
(**Zanthin®** CO2 extract of *Haematococcus pluvialis* algae)

C3G (Cyanidin-3-glucoside) **2.2 mg**
[from European black currant (*Ribes nigrum*) extract (fruit)]

The retail price for a bottle containing 60 softgels of **Super Zeaxanthin with Lutein, Meso-zeaxanthin Plus Astaxanthin and C3G** is \$42. If a member buys four bottles, the price is reduced to just **\$28.50** per bottle.

Contains soybeans.



Item # 01586

To order **Super Zeaxanthin with Lutein, Meso-zeaxanthin Plus Astaxanthin and C3G**,
call **1-800-544-4440** or visit **www.LifeExtension.com**

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References

1. *J Photochem Photobiol B*. 2007 Jul 27;88(1):1-10.
2. *J Photochem Photobiol B*. 2006 Dec 1;85(3):205-15.

3. *Ophthalmology*. 2008 Feb;115(2):324-33.e2.
4. *Invest Ophthalmol Vis Sci*. 2008 Apr;49(4):1679-85.
5. *Biochimica et Biophysica Acta*. 2001;1512:251-8.

6. Available at: <http://www.aafp.org/afp/20000401/2159.html>. Accessed August 10, 2010.
7. *Alt Med Rev*. 2000;5(6):553-62.

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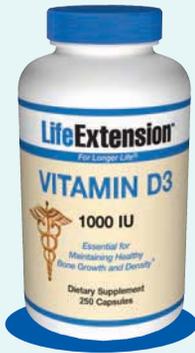
Which VITAMIN D is Right for You?



Study after study confirms the vital importance of maintaining optimal levels of **vitamin D** for broad-spectrum health benefits. Research often indicates that a blood level of 50 ng/mL of **25-hydroxyvitamin D** is ideal.

Because people have individual requirements, Life Extension® has created the largest selection of **vitamin D** supplements available to ensure that you achieve your **vitamin D3** goals.

Keep in mind that you may already be getting 1,000-3,000 IU of vitamin D in your multi-nutrient formula.



Vitamin D3 1,000 IU 250 capsules

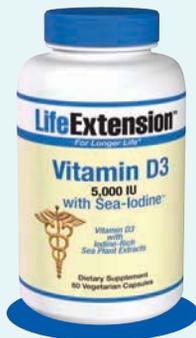
Retail: \$12.50

Four-bottle Member Price: \$8.44 ea.

Commercial companies offered only 400 IU vitamin D products when Life Extension long ago introduced this 1,000 IU version. For most people, this 1,000 IU potency is *insufficient* to attain optimal vitamin D blood levels. For smaller individuals who obtain 2,000-3,000 IU in their multi-nutrient formulas (and children), this potency of vitamin D may be suitable.

Item # 00251

Please refer to website for allergen information.



Vitamin D3 5,000 IU with Sea-Iodine™* 60 vegetarian capsules

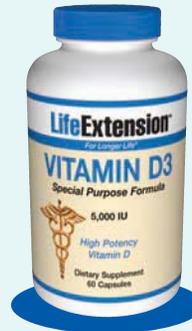
Retail: \$14

Four-bottle Member Price: \$9.38 ea.

Most people do not ingest enough vitamin D and iodine, especially those seeking to reduce their salt intake. Combining 5,000 IU of **vitamin D3** and 1,000 mcg of **iodine** into one capsule makes taking these two nutrients economical and convenient.

Item # 01372

Please refer to website for allergen information.



Vitamin D3 5,000 IU 60 capsules

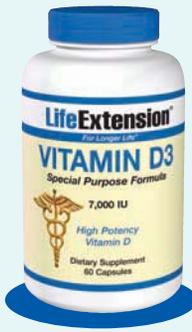
Retail: \$11

Four-bottle Member Price: \$7.43 ea.

For those obtaining 1,000-3,000 IU of vitamin D in their multi-nutrient formulas, this 5,000 IU potency is what most need to *achieve* optimal vitamin D blood levels.

Item # 00713

Please refer to website for allergen information.



Vitamin D3 7,000 IU 60 capsules

Retail: \$14

Four-bottle Member Price: \$9.45 ea.

Some individuals (such as those weighing more than 180 pounds) may require higher potencies of vitamin D. When combined with 1,000-3,000 IU obtained from multi-nutrient formulas, this 7,000 IU **vitamin D3** capsule should enable these individuals to attain 25-hydroxyvitamin D blood levels above the desired range of 50 ng/mL.

Item # 01418

Please refer to website for allergen information.



Vitamin D3 Liquid Emulsion 2,000 IU 1 ounce

Retail: \$28

Four-bottle Member Price: \$18.75 ea.

For those rare individuals who have difficulty absorbing enough vitamin D3 from powdered capsules, this liquid emulsion of vitamin D can be used.

Item # 00864

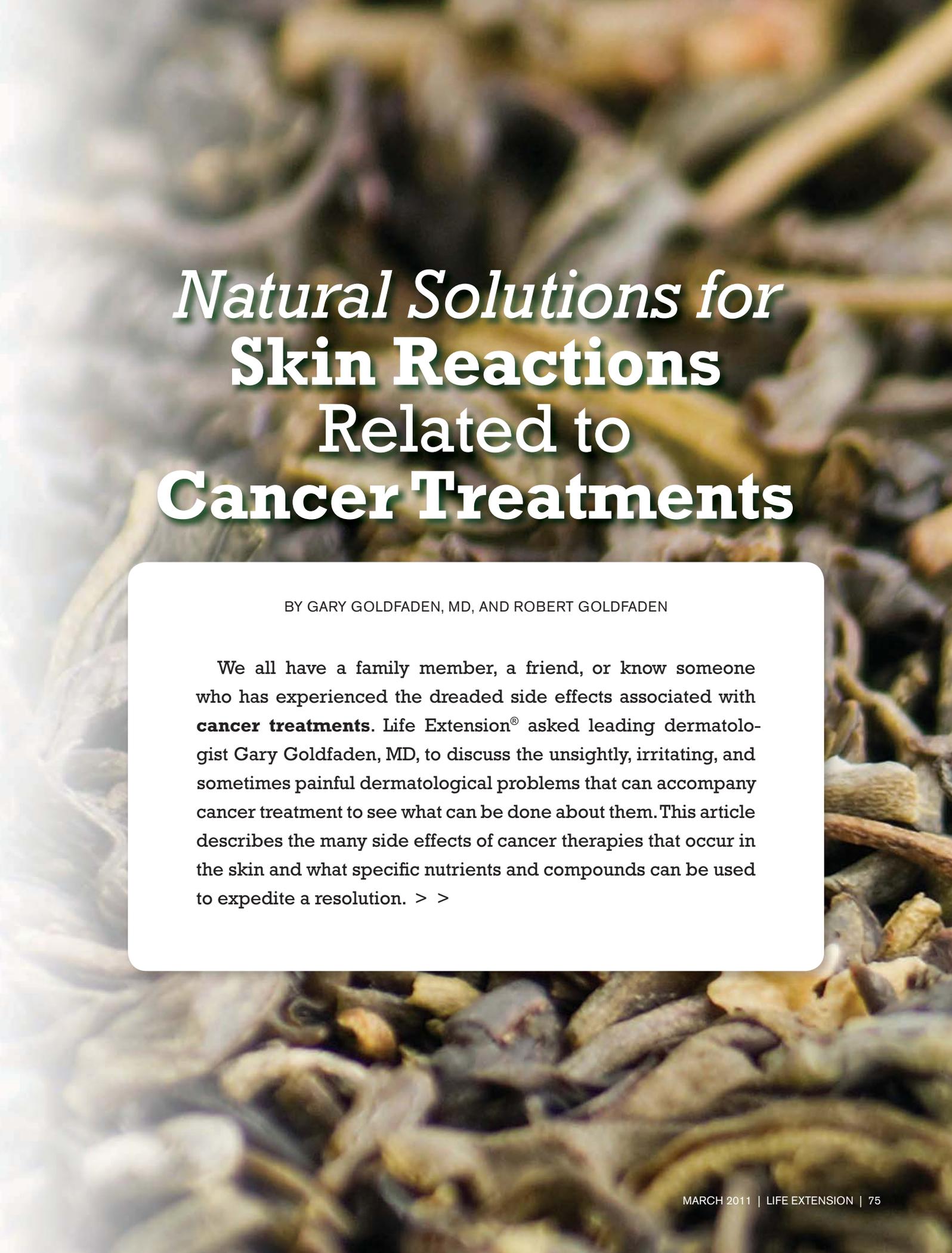
**To order any of these high-potency
vitamin D3 supplements, call 1-800-544-4440
or visit www.LifeExtension.com**

CAUTION: Individuals consuming more than 2,000 IU/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxyvitamin D measurement. Do not exceed 10,000 IU per day unless recommended by your doctor. Vitamin D supplementation is not recommended for individuals with hypercalcemia (high blood calcium levels). People with kidney disease, certain medi-

cal conditions (such as hyperparathyroidism or sarcoidosis), and those who use cardiac glycosides (digoxin) or thiazide diuretics should consult a physician before using supplemental vitamin D.

* If you have a thyroid condition or are taking antithyroid medications, do not use without consulting your healthcare practitioner.





Natural Solutions for **Skin Reactions** Related to **Cancer Treatments**

BY GARY GOLDFADEN, MD, AND ROBERT GOLDFADEN

We all have a family member, a friend, or know someone who has experienced the dreaded side effects associated with **cancer treatments**. Life Extension® asked leading dermatologist Gary Goldfaden, MD, to discuss the unsightly, irritating, and sometimes painful dermatological problems that can accompany cancer treatment to see what can be done about them. This article describes the many side effects of cancer therapies that occur in the skin and what specific nutrients and compounds can be used to expedite a resolution. > >

The most common treatment options for cancer patients today are surgery, radiation, and chemotherapy. More than half of all people diagnosed with cancer are treated with radiation therapy.¹ This practice involves exposing the affected area to high-energy rays that kill the cancer cells and keep them from growing and multiplying.² Radiation therapy can cause mild to severe skin reactions, including itchiness and redness, peeling and flaking, and even permanent scarring and pigmentation of the treated area.^{3,4}

Chemotherapy uses drugs that target and kill rapidly dividing cells. Since cancer cells divide more rapidly than most cells, they are particularly susceptible to this kind of attack.

However, there are *healthy* cells that also reproduce very rapidly, making them prime targets for chemotherapy-induced death as well. These include the cells that line the inside of your mouth, the lining of your intestines, your blood cells, platelets, hair follicles, and your skin cells.⁵ This accounts for many of the side effects experienced during chemotherapy, including hair loss, nausea, and low blood cell counts.⁶

Skin problems, including rashes, peeling, discoloration, streaking, bruising, extreme dryness, sensitivity, redness, and acne, are also a common result of chemotherapy.⁷

Fortunately, there are safe, effective, natural nutrients that can alleviate these skin-related side effects of cancer treatment: **vitamin K1**, **vitamin D**, extract of the European flowering plant *Arnica montana* (arnica), **oats**, and concentrated **tea extracts**. Topically combined, they help to speed the repair and regeneration of damaged skin resulting from the effects of cancer surgery, radiation, and chemotherapy.

Pre- and Post-Surgical Topical Treatment

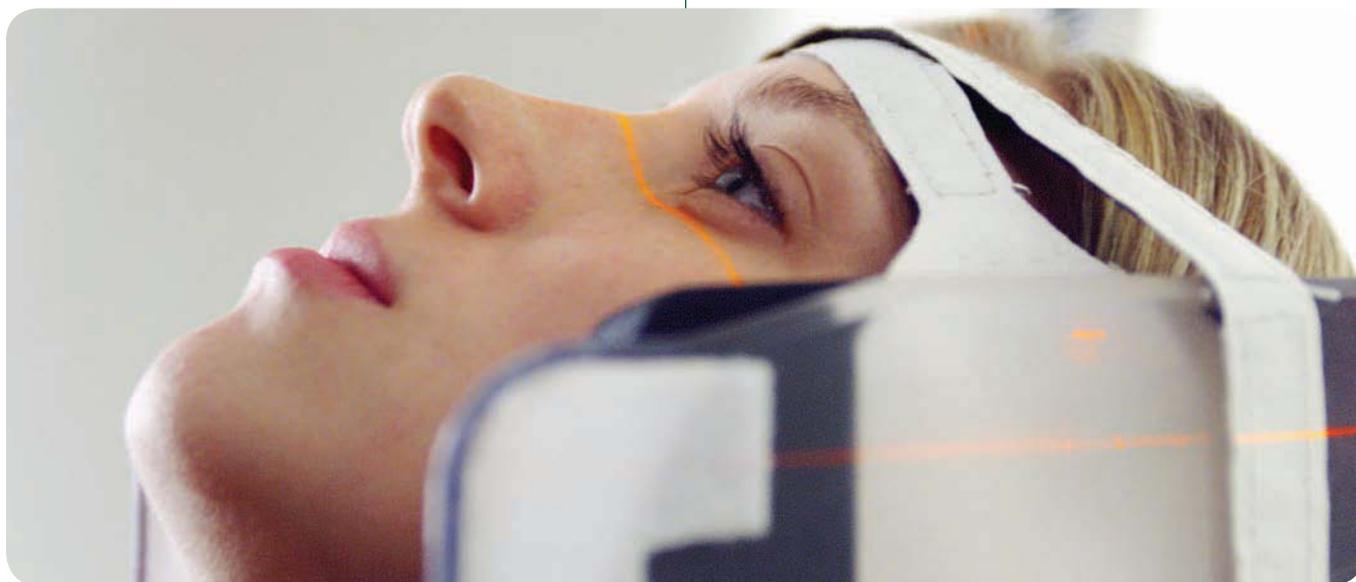
Topically treating the site *before* a surgical procedure with powerful antioxidants, such as concentrated **tea extracts**, along with natural anti-inflammatory, moisturizing compounds contained in oats called **avenanthramides**, can help strengthen your skin's natural defenses.^{8,9} Post-operatively, applying the fat-soluble clotting factor vitamin K1 helps to restore damaged skin's ability to heal from bruising.^{10,11} Topical arnica applied to the wound site can also reduce post-operative bruising and swelling.^{12,13} At the same time, vitamin D helps to speed skin regeneration,^{14,15} thereby minimizing the risk of surgery-induced scarring and skin discoloration.

Support from the Effects of Radiation Therapy

Again, pre-treating the skin site with natural, health-promoting antioxidants prior to radiation therapy can help to ensure a cosmetically favorable post-treatment outcome.

After radiation therapy, the skin's response usually undergoes three consecutive stages. In the first stage, the patient may experience itching and redness in the affected area. This irritation may be successfully countered through the combined effects of arnica's anti-inflammatory action and the natural healing effect of vitamin D.

As treatment progresses, second-stage symptoms often develop, including excessive dryness and sensitivity, along with peeling and flaking of the skin. Oats, with their potent moisturizing and anti-inflammatory



properties, act to effectively calm, protect, and heal severely dehydrated skin at this stage.¹⁶

In the third and final stage, actual *burning* of the skin caused by radiation results in *scarring*¹⁷ and unwanted pigmentation. Treating the affected area with vitamin D and natural antioxidants such as concentrated tea extracts^{18,19} can help accelerate the regenerative process and reduce subsequent scarring.

Healing Power for Bruising and Ecchymoses

Chemotherapy can destroy the platelet-forming cells found in your bone marrow. Platelets are responsible for forming clots to halt internal bleeding. As this deterioration progresses and more platelets are lost, even the *slightest* trauma can provoke massive bruising that may take months to heal.

If the patient's platelet count drops to extremely low levels (a normal platelet count in a healthy individual is between 150,000-450,000 per microliter of blood), spontaneous bruising may occur without any trauma at all.²⁰ The resulting *ecchymoses*—the technical term for large, reddish-blue patches of bruised skin—may also be caused by the rupture of small blood vessels. Both of these conditions can be effectively treated with vitamin K1.^{10,11,21} The compounds found in arnica have been shown to reduce swelling, quell inflammation, and speed the skin's recovery from hematoma.²²⁻²⁵

Vitamin K1 is also ideal as a treatment for most kinds of vascular injury due to its fat-soluble nature and powerful blood-clotting effects.²⁶ When topically applied, vitamin K1 readily penetrates the skin and travels deep into the inner layer of the skin known as the *dermis*, where it effectively targets damaged capillaries. Vitamin K1 and arnica also naturally help resolve bruising.²⁶

Combating “Venous Streaking” and “Extravasation”

One of the more common side effects of chemotherapy is called *venous flare* or *venous streaking*.²⁷ This mild allergic reaction is characterized by a localized redness or rash (often accompanied by itching) that runs along the path of the injected vein. Venous streaking physically resembles but should not be confused with *extravasation*, the accidental administration of intravenously (IV) infused medicinal drugs into surrounding healthy tissue. Venous streaking may be effectively minimized by applying a combination of natural antioxidants to the injection site—including arnica and vitamin K—both before and after chemotherapy.



What You Need to Know

Solutions for Skin Reactions to Cancer Treatments

- Common cancer treatments, including surgery, radiation, and chemotherapy, produce unsightly, irritating, and often painful skin reactions.
- Surgery and radiation inflict physical damage to the skin in the form of trauma, rupture, and burning.
- Chemotherapy, which kills rapidly dividing cancer cells, also destroys *healthy* cells that divide rapidly—including your skin cells.
- The fat-soluble nutrient vitamin K1 penetrates damaged skin and helps speed the healing of bruises.
- Extract of the European flowering plant *Arnica montana* exerts powerful anti-inflammatory and anti-itching effects.
- The antioxidants in concentrated tea extracts bolster your skin's free-radical defenses.
- The anti-inflammatory, moisturizing compounds found in oats called **avenanthramides** help to soothe traumatized skin and speed healing.
- Oats also act as gentle astringents and exfoliants, clearing away excess dead skin cells.
- Vitamin D helps to accelerate skin regeneration.

Extravasation refers to the escape of a chemotherapy drug into the extravascular space, either by leakage from a vessel or by direct infiltration. Extravasation is a more severe kind of dermal injury that can result in long-term pain and swelling. A little-used but effective antidote for chemotherapy extravasation injury is the topical application of a **70% DMSO** solution with a white cotton swab to the affected area. Any excess DMSO should be removed with a white cotton cloth or tissue. Treatment may be repeated every 3-4 hours and may be needed for four to eight weeks to completely resolve the extravasation injury.²⁸

Soothing Dry, Sensitive, Fragile, and Peeling Skin

Dry, rough, flaky skin is often a side effect of chemotherapy drugs for two main reasons: 1) the drugs destroy new skin cells; and 2) the drugs interfere with the normal function of your skin's naturally moisturizing and protective oil and sweat glands.²⁹ Extreme dehydration may manifest in affected areas, resulting in a range of side effects, from painful cracks that may or may not bleed, to intense itching, redness, and inflammation.

As a major controlling factor in skin cell growth and replacement, vitamin D can help to counter these effects. The rate at which new cells divide, the nature and timing of their changes, as well as their transit time to the skin's surface, are all triggered and controlled by the presence of vitamin D.^{30,31} The powerful antioxidant and anti-inflammatory effects of oats can also help to reduce redness and irritation.

Countering Steroid-Induced Acne Outbreaks

Some of the more effective and commonly used agents employed as part of the cancer treatment regimen are **steroids**—a class of hormones that unfortunately may lead to an outbreak of acne. This happens because steroids increase the activity of oil glands in the skin. This is where oats come in. In addition to quelling inflammation, oats act as a natural *astringent*. They effectively draw excess oil out of the skin and help clear clogged pores. They also act as a natural exfoliant that gently rubs away dead skin cells and other debris as they increase blood circulation to aid skin regeneration.^{32,33}

Summary

The most common cancer treatments, including surgery, radiation, and chemotherapy, produce unsightly, irritating, and often painful skin reactions. Surgery and radiation inflict physical damage to the skin in the form of trauma, rupture, and burning. Chemotherapy, which kills rapidly dividing cancer cells, also destroys *healthy* cells that divide rapidly—including skin cells. The fat-soluble nutrient vitamin K1 restores the skin's diminished healing ability caused by chemotherapy's attack of blood platelets. Extract of the European flowering plant *Arnica montana* exerts

The anti-inflammatory, moisturizing compounds found in oats called avenanthramides help to soothe traumatized skin and speed regeneration.





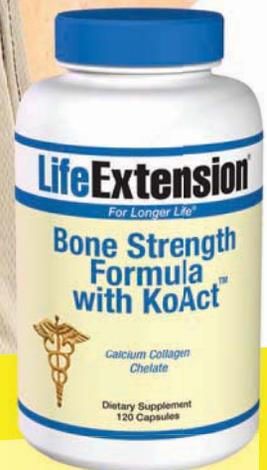
a powerful anti-inflammatory and anti-itching effect. The antioxidants in concentrated tea extracts bolster your skin's free-radical defenses. The anti-inflammatory, moisturizing compounds found in oats called **avenanthramides** help to soothe traumatized skin and speed regeneration. Oats also act as gentle astringents and exfoliants, clearing away excess dead skin cells. Vitamin D helps to accelerate skin regeneration. When topically combined, they effectively protect skin prior to cancer treatment and speed post-treatment healing and recovery. ●

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

References

- Available at: <http://www.astro.org/PressRoom/FastFacts/documents/FFAboutRT.pdf>. Accessed December 21, 2010.
- Available at: http://www.medicinenet.com/radiation_therapy/article.htm. Accessed December 21, 2010.
- Available at: <http://www.cancer.gov/cancertopics/coping/radiation-therapy-and-you/page6>. Accessed December 21, 2010.
- Available at: http://www.wrongdiagnosis.com/s/skin_cancer/treatments.htm. Accessed December 21, 2010.
- Available at: <http://www.cancer.gov/cancertopics/chemotherapy-and-you/allpages>. Accessed December 21, 2010.
- Available at: <http://www.driscollchildrens.org/health/peds/oncology/cantreat.asp>. Accessed December 21, 2010.
- Available at: http://www.chemocare.com/managing/skin_reactions.asp. Accessed December 21, 2010.
- Dimberg LH, Theander O, Lingert H. Avenanthramides – A group of phenolic antioxidants in oats. *Cereal Chem.* 1993;70(6):637-41
- Sur R, Nigam A, Grote D, Liebel F, Southall MD. Avenanthramides, polyphenols from oats, exhibit anti-inflammatory and anti-itch activity. *Arch Dermatol Res.* 2008 Nov;300(10):569-74.
- Shah NS, Lazarus MC, Bugdodel R, et al. The effects of topical vitamin K on bruising after laser treatment. *J Am Acad Dermatol.* 2002 Aug;47(2):241-4.
- Lou WW, Quintana AT, Geronemus RG, Grossman MC. Effects of topical vitamin K and retinol on laser-induced purpura on nonlesional skin. *Dermatol Surg.* 1999 Dec;25(12):942-4.
- Leu S, Havey J, White LE, et al. Accelerated resolution of laser-induced bruising with topical 20% arnica: a rater-blinded randomized controlled trial. *Br J Dermatol.* 2010 Sep;163(3):557-63.
- Seeley BM, Denton AB, Ahn MS, Maas CS. Effect of homeopathic Arnica montana on bruising in face-lifts: results of a randomized, double-blind, placebo-controlled clinical trial. *Arch Facial Plast Surg.* 2006 Jan-Feb;8(1):54-9.
- Zasloff M. Sunlight, vitamin D, and the innate immune defenses of the human skin. *J Invest Dermatol.* 2005;125(5):xvi-xvii.
- Ganz T. Defensins: antimicrobial peptides of vertebrates. *C R Biol.* 2004 Jun;327(6):539-49.
- Available at: http://www.activenaturalsinstitute.com/anri/library_avenanthramides.html. Accessed December 22, 2010.
- Available at: http://www.healthcastle.com/se_radiation.shtml. Accessed December 22, 2010.
- Katiyar S, Elmets CA, Katiyar SK. Green tea and skin cancer: photoimmunology, angiogenesis and DNA repair. *J Nutr Biochem.* 2007 May;18(5):287-96.
- Marnewick J, Joubert E, Joseph S, Swanevelder S, Swart P, Gelderblom W. Inhibition of tumour promotion in mouse skin by extracts of rooibos (*Aspalathus linearis*) and honeybush (*Cyclopia intermedia*), unique South African herbal teas. *Cancer Lett.* 2005 Jun 28;224(2):193-202.
- Available at: http://www.medicinenet.com/thrombocytopenia_low_platelet_count/article.htm. Accessed December 21, 2010.
- Guidry JR, Raschke RA, Morkunas AR. Toxic effects of drugs used in the ICU. Anticoagulants and thrombolytics. Risks and benefits. *Crit Care Clin.* 1991 Jul;7(3):533-54.
- Lyss G, Schmidt TJ, Merfort I, Pahl HL. Helenalin, an anti-inflammatory sesquiterpene lactone from Arnica, selectively inhibits transcription factor NF-kappaB. *Biol Chem.* 1997 Sep;378(9):951-61.
- Schmidt TJ. Helenanolide-type sesquiterpene lactones-III. Rates and stereochemistry in the reaction of helenalin and related helenanolides with sulfhydryl containing biomolecules. *Bioorg Med Chem.* 1997 Apr;5(4):645-53.
- Kupchan SM, Eakin MA, Thomas AM. Tumor inhibitors. 69. Structure-cytotoxicity relationships among the sesquiterpene lactones. *J Med Chem.* 1971 Dec;14(12):1147-52.
- Lee KH, Meck R, Piantadosi C, Huang ES. Antitumor agents. 4. Cytotoxicity and in vitro activity of helenalin esters and related derivatives. *J Med Chem.* 1973 Mar;16(3):299-301.
- Available at: <http://www.freepatentsonline.com/5510391.html>. Accessed December 22, 2010.
- Hayden BK, Goodman M. Chemotherapy: Principles of Therapy. In: Yarbro CH, Frogge MH, Goodman M. *Cancer Nursing: Principles and Practice*. 6th ed. Jones & Bartlett Publishers, Inc.; 2005:361-411.
- Available at: <http://www.dmsa.org/articles/skkin/softiss.htm>. Accessed January 5, 2011.
- Available at: http://www.breastcancer.org/tips/hair_skin_nails/skin_care.jsp. Accessed December 22, 2010.
- Matsumoto K, Azuma Y, Kiyoki M, Okumura H, Hashimoto K, Yoshikawa K. Involvement of endogenously produced 1,25-dihydroxyvitamin D-3 in the growth and differentiation of human keratinocytes. *Biochim Biophys Acta.* 1991 May 17;1092(3):311-8.
- Holick MF, MacLaughlin JA, Clark MB, et al. Photosynthesis of previtamin D3 in human skin and the physiologic consequences. *Science.* 1980 Oct 10;210(4466):203-5.
- Cerio R, Dohil M, Jeanine D, Magina S, Mahé E, Stratigos AJ. Mechanism of action and clinical benefits of colloidal oatmeal for dermatologic practice. *J Drugs Dermatol.* 2010 Sep;9(9):1116-20.
- Kurtz ES, Wallo W. Colloidal oatmeal: history, chemistry and clinical properties. *J Drugs Dermatol.* 2007 Feb;6(2):167-70.

STRONGER BONES, STRONGER YOU



Item # 01211

Weak, brittle bones increase the risk of injury for many aging humans. Bone injuries, such as fractures, splinters, and bruises, can be extraordinarily painful, and may result in months of uncomfortable rehab or long-term disability. In order to protect yourself from potentially life-altering problems, Life Extension® has formulated an exciting product made with chelated calcium and collagen called KoAct™ to maintain bone strength and mineral density.

KoAct™ allows for greater flexibility...so your bones can absorb energy, reducing the risk of age-related injuries. Additional plant extracts are included for their bone-protective minerals and polyphenols.

A bottle of Bone Strength Formula with KoAct™ retails for \$42. If a member buys four bottles, the price is reduced to \$28.50 per bottle.

Contains corn.

To order Bone Strength Formula with KoAct™, call 1-800-544-4440 or visit www.LifeExtension.com

Four capsules of Bone Strength Formula with KoAct™ provide:

Collagen (from 3,000 mg KoAct™ Calcium Collagen Chelate)	2,700 mg
Calcium (from 3,000 mg KoAct™ Calcium Collagen Chelate and calcium fructoborate)	300 mg
Vitamin D3 (as cholecalciferol)	1,000 IU
Magnesium (as magnesium citrate)	100 mg
Silica [from standardized Bamboo (<i>Bambusa vulgaris</i>) extract (stem)]	5 mg
Dried Plum (<i>Prunus domestica</i>) extract (fruit) [standardized to 50% polyphenols (50 mg)]	100 mg
Boron (calcium fructoborate as patented FruiteX B® OsteoBoron®)	3 mg

If you need extra bone support, ask your healthcare professional how Bone Strength Formula with KoAct™ can be part of a comprehensive nutritional program in conjunction with proper resistance exercise. Life Extension offers many mineral formulas that may complement Bone Strength Formula with KoAct™ to ensure optimal mineral intake.

KoAct™ is a trademark of AIDP, Inc. FruiteX B® and OsteoBoron® are registered trademarks of VDF FutureCeuticals, Inc., U.S. Patent #5,962,049.



All-in-one Healing Formula



CREAM BY COSMESIS®

Red spots. Abrasions. Swollen, purple blotches, and scars. Even minor incidents can cause major cosmetic problems.

When you were younger, these problem areas disappeared in a matter of days. Now they seem to last for weeks. And they crop up in more places than ever before: hands, arms, legs, feet, back, buttocks.

The fact is that as you age, your skin grows thinner and more fragile. The result? Age-related imperfections, blemishes, discoloration, areas of raised skin, and other stubborn eyesores become more frequent—and lasting.

That's why **Life Extension®** asked renowned dermatologist Gary Goldfaden, MD, to formulate new **Healing Formula All-in-One Cream**. It brings together nature's most powerful skin protectors, revitalizers, and healing agents to offset the visible impact of minor trauma to aging skin, including:

- **VITAMIN K1.** Prized for decades by dermatologists to help minimize bruising, scarring, and blemishes—even *after* cosmetic procedures.¹⁻⁵
- **ARNICA MONTANA.** Extract of a European subalpine flower that's been clinically shown to help bruised or scarred skin.⁶ Arnica is rich in phenols (plant-based compounds) called **sesquiterpene lactones** that penetrate^{7,8} your skin's outer layer to deliver deep healing.⁹ It also contains the essential oil **thymol** to moisturize and protect.
- **OATS.** Used since the days of the Romans, oats contain **avenanthramides**, naturally occurring compounds with proven anti-itching and soothing properties.^{10,11}
- **VITAMIN D.** As **cholecalciferol**, its quenching action locks in moisture, helping to counter the unsightly effects of your skin's gradually declining capacity to renew itself.

The result is a unique formula delivering a blend of high-potency, synergistic ingredients to preserve and protect your skin's healthy-looking, vibrant glow.

A 1 oz jar of **Healing Formula All-in-One Cream** retails for \$53. If a member buys two jars, the cost is just **\$34.07** per jar.



Item #80137

To order new
All-in-One Healing
Formula Cream
call 1-800-544-4440
or visit
www.LifeExtension.com

References

1. *Trends Biochem Sci.* 1976 Nov;1(11):256-8.
2. *Dermatol Surg.* 1999 Dec;25(12):942-4.
3. *J Am Acad Dermatol.* 2002 Aug;47(2):241-4
4. *Arch Facial Plast Surg.* 2006 Jan-Feb;8(1):54-9.
5. *J Drugs Dermatol.* 2009 Nov;8(11):1020-4.

6. *Br J Dermatol.* 2010 Apr 20.
7. *J Pharm Pharmacol.* 2006 Sep;58(9):1167-76.
8. *Pharmazie.* 2005 Jan;60(1):36-8.
9. *Planta Med.* 2005 Nov;71(11):1044-52.
10. *Arch Dermatol Res.* 2008 Nov;300(10):569-74.
11. *Free Radic Biol Med.* 2008 Feb 1;44(3):415-29.

Unleash the Power of the Milk Thistle Flower



Milk thistle extract has long been thought of as one of nature's most potent weapons to support *human health*, but until recently, the technology hasn't been available to fully harness this plant's potential. Among the compounds waiting to be unlocked are a slew of *nourishing antioxidants* and flavonolignans valued for their role in *ensuring healthy liver function*.^{1*}

Life Extension® has uncovered an advanced extraction technology that has enabled scientists to isolate silymarin constituents and to test their efficacy against various cell lines. Among the compounds tested, a silymarin constituent called **isosilybin B** proved to be the most efficient in maintaining healthy cell division.²

Optimized Milk Thistle is the first milk thistle extract to contain standardized, high potencies of **silymarin, silibinin, and isosilybin B**—providing the full spectrum of milk thistle's liver and prostate protective compounds. Each capsule of this advanced formula provides:

Milk Thistle (*Silybum marianum*) Extract (seed) 900 mg
[std. to 80% Silymarin 720 mg),
30% Silibinin (270 mg),
and 4.5% Isosilybin B complex (40.5 mg)]



A 100-capsule bottle of **Optimized Milk Thistle** retails for \$42. If a member buys four bottles, the cost is reduced to only **\$28.50** per bottle—a **savings of nearly one third!** Each bottle will last a healthy person for at least three months.

Compare the price of **Optimized Milk Thistle** to commercial silymarin supplements, and members will see that this new formula is available at one of the lowest costs per milligram—with standardized concentrations of **silibinin** and **isosilybin B** not found in other milk thistle extracts!

Reference

1. *Pak J Pharm Sci*. 2008 Jul;21(3):249-54
2. *Cancer Res*. 2005 May 15;65(10):4448-57.

Contains rice.



Item #00702

To order
Optimized Milk Thistle
call 1-800-544-4440
or visit
www.LifeExtension.com

*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.

NEXT-GENERATION FORMULA

Optimized Cran-Max[®] with UTIRose[™]

Featuring a Novel High-Concentration **Hibiscus Polyphenol Blend**



The anatomy of the female **urinary tract** differs greatly from men, resulting in the need for additional nutritional support for women.

A wealth of published studies indicates that **cranberry polyphenols** may help to support a healthy urinary tract.¹⁻⁵

Of particular importance is the flavonoid content of the cranberry, including **anthocyanins** and **proanthocyanidins**. These natural compounds exert powerful antioxidant effects that can reduce oxidative stress.

Recent clinical data suggest that the proanthocyanidins found only in cranberries also possess **unique** molecular features that specifically promote urinary system health.⁶⁻⁸

A **Synergistic** Compound Available Only in Europe—Until Now

In a significant advance, **Life Extension[®]** has identified a unique compound available overseas but little-known in the United States that provides a **synergistic** complement to the whole cranberry's phytonutrient profile.

UTIRose[™] is derived from **Hibiscus sabdariffa**, a species native to Europe, Asia, and Africa. Scientific analysis has shown that this species' flower and calyx (the green floral envelope surrounding the blossom) are rich in active polyphenols, including **flavonoids**, **sambubiosides**, and **proanthocyanidins**.

Of special importance is a flavonoid found in *Hibiscus sabdariffa* called **gossypetin** (3,5,7,8,3', 4'-hexahydroxy flavone), which has been shown to provide support for urinary system health.⁹

Life Extension[®] uses a unique, patented process in the manufacture of Optimized Cran-Max[®] with UTIRose[™]. Each daily serving supplies the complete phenolic profile of the whole cranberry *plus* hibiscus polyphenols in a standardized, highly absorbable, *concentrated* form. Two capsules of Optimized Cran-Max[®] with UTIRose[™] contain:

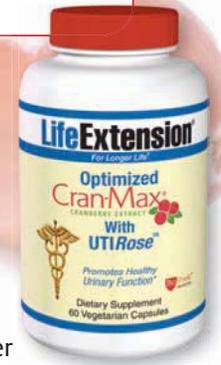
UTIRose[™] (<i>Hibiscus sabdariffa</i>) extract (flower, calyx)	200 mg
Cran-Max[®] Cranberry infused whole fruit extract	500 mg

The suggested daily amount of Cran-Max[®] in this formula alone (500 mg) was demonstrated to provide the **anthocyanin** equivalent of **seven 8 oz glasses** of Ocean Spray[®] Cranberry Juice Cocktail.¹⁰

The price for one bottle of **Optimized Cran-Max[®] with UTIRose[™]** containing 60 vegetarian capsules is \$18. If a member buys four bottles, the price is reduced to **\$12 per bottle**.

References

1. *Cochrane Database Syst Rev.* 2004;(2):CD001321
2. *Mol Nutr Food Res.* 2007 Jun;51(6):732-7.
3. *Evid Based Med.* 2008 Aug;13(4):105.
4. *BMJ.* 2001;322:1-5.
5. *Phytomedicine.* 2007;14(4):237-41.
6. *J Med Food.* 2009 Apr;12(2):259-70.
7. *Crit Rev Food Sci Nutr.* 2002;42(3 Suppl):273-8.
8. *Wien Med Wochenschr.* 2007;157(13-14):325-30.
9. *The Antiseptic.* 2002 Mar; 99(3): 81-2.
10. Cran-Max[®] versus Ocean Spray Cranberry Juice cocktail bioactive comparison. Independent laboratory analysis. Tucson, AZ: Atlas Bioscience, Inc.; 2006.



Item #01424



To order **Optimized Cran-Max[®] with UTIRose[™]**,
call **1-800-544-4440** or visit **www.LifeExtension.com**

Cran-Max[®] registered trademark of BDM Technologies, LLC. UTIRose[™] is a trademark of Burgundy Botanical Extract. Bio-Shield[®] is a registered trademark of Bio-Nutra Technologies, LLC.



Go Green, Get Healthy,

Turns out, the advice you got as a child to “eat your greens” could pay major dividends as an adult. Scientists have recently identified extracts from green vegetables like broccoli, cabbage, and Brussels sprouts that help maintain healthy hormone levels. Having optimal hormone levels is essential to any anti-aging strategy. In addition, many of these extracts contain *glucosinolates*, *isothiocyanates*, *carosic acid*, and *carosol* – bioactive compounds that have a wide variety of favorable effects on estrogen metabolism and cell division.¹⁻⁴

Triple Action Cruciferous Vegetable Extract with Apigenin combines a **broccoli Super Concentrate** with **watercress**, **Indole-3-Carbinol (I3C)**, **rosemary extract**, **cat’s claw extract**, **cabbage extract**, **DIM**, and **apigenin**, a powerful plant flavonoid found in plants such as **parsley** and **celery**, to form the most comprehensive cruciferous vegetable supplement available.⁵

For those who don’t have the time to consume each of the above vegetables each and every day, **Triple Action Cruciferous Vegetable Extract with Apigenin** is the perfect solution to making sure your body gets the important extracts it needs from these crucial food sources. For those weighing less than 160 pounds, just one vegetarian capsule a day provides optimal potencies. Those weighing over 160 pounds should consider taking two capsules a day. A 60-vegetarian capsule bottle of **Triple Action Cruciferous Vegetable Extract** retails for \$24. If a member buys four bottles, the price is reduced to only **\$16.50 per bottle**.

Those who want to obtain the benefits of **resveratrol** can order **Triple Action Cruciferous Vegetable Extract with Resveratrol**. Each capsule provides **20 mg of resveratrol** in addition to the **vegetable extracts** and retails for \$32 per 60-capsule bottle. When a member buys four bottles, the price is reduced to only **\$22.20 per bottle**.



Triple Action Cruciferous Vegetable Extract provides the following concentrates in just one vegetarian capsule:

Broccoli Super Concentrate	400 mg
[standardized to 4% glucosinolates (16 mg)]	
Watercress 4:1 extract	50 mg
Indole-3-Carbinol (I3C)	80 mg
Rosemary Extract	50 mg
Cat’s Claw Extract	50 mg
Cabbage Extract	25 mg
DIM (di-indolyl-methane)	14 mg
Apigenin	25 mg

Contains yeast and corn.

REFERENCES:

1. *Carcinogenesis*. 2002 Apr;23(4):581-6.
2. *Mol Cancer Ther*. 2003 Oct;2(10):1045-52.
3. *Carcinogenesis*. 1998 Oct;19(10):1821-7.
4. *Carcinogenesis*. 1995 Sep;16(9):2057-62.
5. *J Clin Biochem Nutr*. 2009 May;44(3):260-5.

To order Triple Action Cruciferous Vegetable Extract, call 1-800-544-4440 or visit www.LifeExtension.com



Optimized QUERCETIN

For those seeking a high-quality quercetin formula, Life Extension® introduces **Optimized Quercetin**—a new “gold-standard” formula derived from a proprietary food-source blend.

Quercetin is a bioflavonoid with unique qualities that supports cellular health and function. In human cell culture studies, quercetin has been shown to block the manufacture and release of inflammation-causing substances,^{1,2} which can help support a healthy immune response to the seasonally changing environment.

Quercetin also helps promote a healthy cardiovascular system by preserving endothelial integrity³ and supporting healthy blood glucose levels for those already within normal range.⁴

Optimized Quercetin contains 250 mg of standardized quercetin plus 250 mg of super food extracts that provide an array of added health benefits. A bottle of 60 vegetarian capsules of **Optimized Quercetin** retails for \$18. If a member buys four bottles, the cost is only **\$12.75 per bottle. ITEM # 01309**

References

1. *Arch Pharm Res.* 2008 Oct;31(10):1303-11.
2. *Neuroimmunomodulation.* 2006;13(3):179-86.
3. *Eur J Cardiovasc Prev Rehabil.* 2005;12:596-600.
4. *Biochem J.* 2005;386:471-8.

To order **Optimized Quercetin**,
call **1-800-544-4440**
or visit www.LifeExtension.com



Contains corn.

Item #01309

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.

IS YOUR FOLIC ACID WORKING FOR YOU?

Folate is involved in **neurotransmitter synthesis** and critical **enzymatic reactions** throughout the body.

By depleting excess **homocysteine**, folate benefits cardiovascular health and nervous system function.

Those who take ordinary folate supplements, however, may not be experiencing its full spectrum of effects. This is because once ingested, not everyone converts folate to its biologically active form called **5-methyltetrahydrofolate** (5-MTHF).¹ Research shows that in a large proportion of the population, *genetic enzyme deficiencies* prevent the conversion of folate to **5-MTHF**, leaving many vulnerable to low blood folate levels (and higher-than-desired homocysteine).

A BIOACTIVE FORM OF FOLATE

A more useful approach is to take the bioactive folate **5-MTHF** directly, which has been declassified as a drug and is now available as a dietary supplement. **5-MTHF** has been shown to dramatically raise blood serum folate levels² compared with folic acid supplementation. This bioactive folate is up to **seven times** more bioavailable than folic acid. This greater *bioavailability* is especially important in people who have a genetic enzyme deficiency³ since it requires no conversion to become metabolically active.

A study of 10 patients with *endothelial dysfunction* showed complete reversal of endothelial impairment after **5-MTHF** supplementation compared with healthy control patients.⁴

People with elevated homocysteine levels have a greater risk of cognitive decline.⁵ Unlike folic acid, **5-MTHF** is able to cross the blood-brain barrier, which is especially important for people with cognitive difficulties to enhance the synthesis of *acetylcholine* in the brain—the neurotransmitter associated with memory.

Studies also show that the effectiveness of **5-MTHF** can be further enhanced by co-supplementing with methylcobalamin (the active form of vitamin B12),⁶ vitamin B6, and riboflavin.⁷

5-MTHF is seven times more bioavailable than regular folic acid.

A bottle containing **100** vegetarian capsules of **Optimized Folate** providing 1,000 mcg of bioactive 5-MTHF in each capsule retails for \$28. If a member buys four bottles, the cost is only **\$18.75 per bottle**.

Item # 01312



To order Optimized Folate,
call 1-800-544-4440 or
visit www.LifeExtension.com

References

1. *BMJ*. 2004;328(7455):1535-6.
2. *Am J Clin Nutr*. 2006 Jul;84(1):156-61
3. *Br J Pharmacol*. 2004 Mar;141(5):825-30.
4. *Circulation*. 1998 Jan 27;97(3):237-41.
5. *N Engl J Med*. 2002 Feb 14;346(7):476-83.
6. *Nephrol Dial Transplant*. May 2002;17(5):916-22.
7. *Clin Chem*. 2000 Aug;46 (8 Pt 1):1065-71.



SUPER FOODS

BY ROBIN GETTLEMAN

Ginger

Good for What Ails You

Due to the powerful phenolic compounds found in ginger, this spice has been studied for its benefits for a wide range of ailments and health disorders. While often referred to as a root, ginger is in fact a spice that contains potent antioxidants such as *shogaols*, *zingiberone*, and *gingerols*.¹ These strong compounds have been linked to providing relief for dozens of issues, including *cough*, *bronchitis*, *upper respiratory tract infections*, *migraine headaches*, *motion* and *morning sickness*, *rheumatoid arthritis*, *post-surgical pain*, *flatulence*, *loss of appetite*, *diarrhea*, *upset stomach*, *stomachache*, *colic*, *dyspepsia*, and *general* and *chemotherapy-induced nausea*. It has even been used topically as an analgesic.¹

Ginger has been used as a home remedy for thousands of years.

Ginger's History

The health benefits of ginger have a history almost as old as civilization itself. Historians have found references to the use of ginger, known botanically as *Zingiber officinale*, in the writings of nearly every ancient society, including Chinese, Indian, and Roman. In fact, the ancient Roman Empire first started importing ginger

SUPER FOODS

nearly two thousand years ago.² Due to its alluring smell, great taste, and medicinal properties, the spice became extraordinarily popular in Europe. This rise in demand, combined with the expensive cost of shipping the product from Asia, forced Europeans to find ways to make ginger less expensive and more readily available. They did this by introducing ginger to the West Indies, Mexico, and South America, and then exporting it back to Europe. Since ginger thrives in a tropical climate, it is produced in the United States in Hawaii, Florida, and California.¹ Internationally, it is exported mainly from Jamaica, Fiji, India, China, and Australia.

GINGER'S BENEFITS

Motion Sickness

Many prescription or over-the-counter products on the market that are developed to combat motion sickness or nausea have side effects like drowsiness and dry mouth. Ginger has shown in several studies that it may provide significant relief to the above symptoms without the detrimental side effects.³

In one study comparing ginger to a placebo in an attempt to measure its ability to reduce symptoms associated with motion sickness, ginger was measured to be potentially more effective than placebo.³

This trial studied 80 beginner-level sailors who were prone to motion sickness. Half of the group took powdered ginger and the other half took placebo. The half who took ginger experienced a reduction in vomiting and cold sweats compared to placebo.

Morning Sickness

Ginger has been used as a home remedy for thousands of years, with one of the longest known uses as a treatment for morning sickness accompanying pregnancy. Researchers presented a study that finally put this folk remedy to the test. In a double-blind, randomized, placebo-controlled trial, a group of pregnant women ingested **125 mg** of ginger extract four times a day for four days.⁴ All the women were less than 20 weeks pregnant, and the women who ingested the ginger showed significantly reduced symptoms of morning sickness, compared with women who consumed placebo.

Inflammation

Ginger contains ultra-potent anti-inflammatory compounds called *gingerols*, which are the substances that many scientists believe are responsible for the reduction in inflammation people experience when they start taking ginger supplements regularly. Case in point, a recent study involving patients who tried conventional drugs to alleviate painful symptoms found that **100%** of patients with muscular discomfort experienced relief of pain or swelling when they consumed ginger on a daily basis.²

In a compelling study published in *Osteoarthritis and Cartilage*, 29 patients with debilitating arthritis in the knee participated in a



GINGER TIPS

1. Choose fresh ginger over dried ginger to preserve the high levels of gingerol content.
2. Fresh ginger root should be firm, smooth, and free of bruises and mold.
3. Fresh ginger can be stored in your refrigerator for up to three weeks if left unpeeled.
4. Dried ginger should be kept in a tightly sealed glass container in a dry, cool, and dark place.
5. The center of the ginger root is the most flavorful.
6. When shredding ginger, be sure to shred in the direction of the fibers.



placebo-controlled, double-blind, crossover study.⁵ The study had each patient start with placebo or ginger, and then switch after 3 months, writing down the results. At the end of the first half-year of the study, the patients who were taking ginger experienced significantly less pain than those on the placebo. Additionally, the patients using ginger reported improvements on a standardized scale used to assess mobility.

A separate study measuring the anti-inflammatory properties of red ginger in the *Journal of Medicinal Food* found positive results as well.⁶ In this study, Japanese researchers prepared a 40% ethanolic extract from dried red ginger and evaluated its anti-inflammatory activity. After confirming that antioxidant shogaols and gingerols suppressed production of inflammatory medi-

ators, the researchers discovered that red ginger extract “has a potent suppressive effect on acute and chronic inflammation, and inhibition of macrophage activation seems to be involved in this anti-inflammatory effect.”⁶

Helps Reduce Chemotherapy-Induced Nausea

Chemotherapy-induced nausea is the type of stomach unease or discomfort that begins within 24 hours after the administration of chemotherapy. Many patients treated for cancer experience this awful side effect, which can lead to vomiting, dry heaving, and overall sickness. It is known that meals high in protein may offer some protection against the onset of nausea, and a study recently

tested whether high-protein meals with added ginger had any beneficial effect.

A team at Siena College in Loudonville, New York, studied this hypothesis on 28 patients with cancer who were receiving chemotherapy for the first time.⁷ Control group patients ate their normal diets, while another group drank a high-protein shake with ginger twice daily. The results were striking.

Patients taking the high-protein shake with ginger reported *significantly fewer* instances of nausea, and electrical measurements of the stomach muscles revealed less gastric dysrhythmia, leading the researchers to conclude that high-protein meals with ginger reduced the nausea that follows chemotherapy.⁷

Colon Cancer Prevention

In a study done by scientists at the University of Minnesota, gingerol exhibited anti-inflammatory and antitumorigenic effects.⁸ At first, scientists were unsure about why gingerol displayed such effectiveness against colon cancer, but the study revealed that the leukotriene A(4) hydrolase protein (LTA[4]H), whose activity can act as a catalyst for colon cancer cells, is targeted by gingerol.⁸

The researchers gave a group of specially bred mice an injection of gingerol three times a week before and after injecting human colorectal cancer cells into them. Tumors first appeared 15 days after mice were injected, but only 4 tumors were discovered in the gingerol group, as opposed to 13 in the control mice.

The findings revealed that “gingerol effectively suppressed tumor growth in mice by inhibition of

SUPER FOODS

LTA(4)H activity...these findings support the anticancer efficacy of gingerol for the prevention of colorectal cancer.”⁸

Fights Ovarian Cancer

While the effectiveness of ginger extracts against inflammation and tumors has been shown above, perhaps ginger has the most promising effect in the fight against ovarian cancer.

At the 97th Annual Meeting of the American Association for Cancer Research, Dr. Rebecca Liu

and her team from the University of Michigan made a presentation about gingerol's ability to kill ovarian cancer cells by inducing *apoptosis* (programmed cell death) and *autophagocytosis* (self-digestion).⁹

The presentation focused on Dr. Liu's team's experiments that examined the effects of a whole ginger extract containing 5% gingerol on several different ovarian cancer lines. While traditional chemotherapeutic agents suppress inflammation the same way ginger is purported to, the danger is that cancer cells may become resis-

tant to the drugs. Dr. Liu believes that ginger may be unique in this respect because cancer cells show no sign of becoming resistant to its cancer-fighting properties. Her team's data showing that exposure to ginger extract caused cell death in all ovarian cancer lines studied bolster this claim.⁹ ●

References

1. Grotto D. *101 Foods That Could Save Your Life*. New York: Bantam Bell; 2008.
2. Available at: www.whfoods.com/genpage.php?name=foodspice&dbid=72. Accessed December 14, 2010.
3. Available at: www.umm.edu/altmed/articles/ginger-000246.htm. Accessed December 14, 2010.
4. Willetts KE, Ekangaki A, Eden JA. Effect of a ginger extract on pregnancy-induced nausea: a randomised controlled trial. *Aust N Z J Obstet Gynaecol*. 2003 Apr;43(2):139-44.
5. Wigler I, Grotto I, Caspi D, Yaron M. The effects of Zintona EC (a ginger extract) on symptomatic gonarthrosis. *Osteoarthritis and Cartilage*. 2003 Nov;11(11):783-9.
6. Shimoda H, Shan SJ, Tanaka J, et al. Anti-inflammatory properties of red ginger (*Zingiber officinale* var. *Rubra*) extract and suppression of nitric oxide production by its constituents. *J Med Food*. 2010 Feb;13(1):156-62.
7. Levine ME, Gillis MG, Koch SY, Voss AC, Stern RM, Koch KL. Protein and ginger for the treatment of chemotherapy-induced delayed nausea. *J Altern Complement Med*. 2008 Jun;14(5):545-51.
8. Jeong CH, Bode AM, Pugliese A, et al. [6]-Gingerol suppresses colon cancer growth by targeting leukotriene A4 hydrolase. *Cancer Res*. 2009 Jul 1;69(13):5584-91.
9. Liu R. Presentation at the 97th Annual Meeting of the American Association for Cancer Research.

If you have any questions on the scientific content of this article, please call a Life Extension[®] Health Advisor at 1-866-864-3027.





High Performance Supplement
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Item #01400

The adult scalp **loses** about **100 hairs every day**. Starting at the age of 40, hair follicles *shrink*, causing hair to grow back *thinner*, or worse, *not at all*. This *devastating* hair loss is experienced by *half* the population. While the prevention and treatment is complex, using a supplement with *tocotrienols* can be pivotal in addressing the various physiological mechanisms that lead to thinning hair.¹

Super Absorbable Tocotrienols combats the underlying causes of hair loss, supporting otherwise healthy hair follicles that genetic disposition, advancing age, high concentrations of DHT (the male hormone dihydrotestosterone), and sebum build-up may cause to weaken, degrade or shrink. **Super Absorbable Tocotrienols**, a natural, orally administered, bio-enhanced tocotrienol complex, can be taken to support *youthful hair thickness and growth*.

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Those who want to obtain the benefits of this *potent* hair formula can order **Life Extension®'s Super Absorbable Tocotrienols**. The recommended dosage is one softgel taken two times daily with food. The retail price for a bottle of **Super Absorbable Tocotrienols** containing 60 softgels is \$30, but if a member buys four bottles, the price is reduced to **\$21 per bottle**.

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Reference:

1. *Randomized Clinical Trial of Tocotrienols Supplementation vs. Placebo for Androgenetic Alopecia*. Professor Yuen Kah Hay, B., School of Pharmaceutical Sciences, Universiti Sains, Malaysia. Submitted for publication 2009.
2. *Antioxid Redox Signal*. 2006 May-Jun;8(5-6):1059-68.
3. *Mol Aspects Med*. 2007 Oct-Dec;28(5-6):692-728.
4. *J. of Pharmacy and Pharmacology*. 2003;53:67-71.
5. *J. of Pharmacy and Pharmacology*. 2003;55:53-8.
6. *Intl. J. of Pharmaceutics*. 2004,(281); 67-78.
7. US Patent No:US 6,596,306.

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Leading phytochemical databases maintained by the USDA and a major U.S. university identify multiple constituents in Gingerforce as modulating the 5-lipoxygenase enzyme.* Recent scientific studies, including one published in the *Proceedings of the National Academy of Sciences*, suggest that 5-lipoxygenase modulation may serve an important role in supporting normal cell growth and activity in a number of the body's organ systems.*

Scientific research further supports ginger as an effective prostaglandin modulator, naturally promoting a healthy inflammation response throughout the body.* Ginger promotes fat-digesting bile and starch-digesting saliva.* The active ingredients of ginger promote the growth of beneficial intestinal microorganisms, which are vital for intestinal health.* Ginger contains at least 12 anti-aging and cardiogenic constituents that inactivate oxygen free radicals, some of these constituents shown *in vitro* to be up to 40 times more effective than Vitamin E.*

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Recent research in India, Denmark, and Japan suggests that ginger promotes circulatory health and balances the inflammatory process.*

People assume that all herbal extracts are pretty much the same. Nothing could be further from the truth. The difference is incredibly meaningful: You get the maximum nutritional, protective health benefits of the whole herb – all of the important compounds – not just the isolated chemical constituent.

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Estradiol	TSH
Free T3	Free T4
C-Reactive Protein (high sensitivity)	
- **FEMALE WEIGHT LOSS PANEL (LCWLF)*** **\$299**

CBC/Chemistry Profile	DHEA-S
Progesterone	Insulin
Free Testosterone	Total Testosterone
Estradiol	TSH
Free T3	Free T4
C-Reactive Protein (high sensitivity)	
- **MALE LIFE EXTENSION PANEL (LC322582)** **\$269**

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Free Testosterone	Total Testosterone
Estradiol	
PSA (prostate-specific antigen)	
C-Reactive Protein (high-sensitivity)	
- **MALE HORMONE ADD-ON PANEL (LCADDM)*** **\$155**

Pregnenolone and Dihydrotestosterone (DHT)

To provide an even more in-depth analysis of a man's hormone status, Life Extension has created this panel as an addition to the Male Life Extension Panel. This panel provides valuable information about a testosterone metabolite that can affect the prostate, and the mother hormone that acts as a precursor to all other hormones.
- **FEMALE LIFE EXTENSION PANEL (LC322535)** **\$269**

CBC/Chemistry Profile	DHEA-S
Estradiol	Homocysteine
Progesterone	TSH for thyroid function
Free Testosterone	Total Testosterone
C-Reactive Protein (high-sensitivity)	
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- **LIFE EXTENSION THYROID PANEL (LC304131)** **\$75**

TSH, T4, Free T3, Free T4.

- **MALE HORMONE RE-TEST PROFILE (LCRTM)*** **\$275**

CBC/Chemistry Profile, DHEA-S, Dihydrotestosterone (DHT), Estradiol, PSA, Pregnenolone, Total and Free Testosterone, and TSH. Continual monitoring of hormone levels is necessary for men seeking to maintain optimal blood level values.
- **FEMALE HORMONE RE-TEST PROFILE (LCRTF)*** **\$250**

CBC/Chemistry Profile, DHEA-S, Total Estrogen, Pregnenolone, Total and Free Testosterone, Progesterone, and TSH. Continual monitoring of hormone levels is necessary for women seeking to maintain optimal blood level values.
- **THE CBC/CHEMISTRY PROFILE (LC381822)** **\$35**

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CARDIOVASCULAR RISK PROFILE

Total Cholesterol	Cholesterol/HDL Ratio
HDL Cholesterol	Estimated CHD Risk
LDL Cholesterol	Glucose
Triglycerides	Iron

LIVER FUNCTION PANEL

AST (SGOT)	Total Bilirubin
ALT (SGPT)	Alkaline Phosphatase
LDH	

KIDNEY FUNCTION PANEL

BUN	BUN/Creatinine Ratio
Creatinine	Uric Acid

BLOOD PROTEIN LEVELS

Total Protein	Globulin
Albumin	Albumin/Globulin Ratio

BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE

Red Blood Cell Count	Monocytes
White Blood Cell Count	Lymphocytes
Eosinophils	Platelet Count
Basophils	Hemoglobin
Polys (Absolute)	Hematocrit
Lymphs (Absolute)	MCV
Monocytes (Absolute)	MCH
Eos (Absolute)	MCHC
Baso (Absolute)	Polynucleated Cells
RDW	

BLOOD MINERAL PANEL

Calcium	Sodium
Potassium	Chloride
Phosphorus	Iron

NOTE: CBC/Chemistry profile is included in the Male and Female Life Extension panels and Weight Loss Panels.
- **GENERAL HEALTH**

○ **HEMOGLOBIN A1C (HBA1C) (LC001453)** **\$31**

Hemoglobin A1C evaluates long-term blood sugar control. Serum glucose sometimes reacts with important proteins in the body rendering them nonfunctional. Since this process, known as glycation is one of the leading theories of aging, Life Extension[®] believes everyone should check their A1C level.
- **VITAMIN D (25OH) (LC081950)** **\$47**

This test is used to rule out vitamin D deficiency as a cause of bone disease. It can also be used to identify hypercalcemia.
- **FOOD SAFE ALLERGY TEST (LCM73001)** **\$174**

This test measures delayed (IgG) food allergies for 95 common foods.
- **CYTOKINE PANEL (LCCYT)*** **\$399**

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** This test is packaged as a kit, requiring a finger stick performed at home.



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|--|----------------|--|--------------|
| <input type="radio"/> HORMONES
CORTISOL (LC004051)
This test is to measure adrenal function. | \$39 | <input type="radio"/> CARDIAC RISK
Lp-PLA2 (PLAC TEST)* (LC141275)
This test is used to aid in predicting risk for coronary heart disease, and ischemic stroke associated with atherosclerosis. Lp-PLA2 is a cardiovascular risk factor that provides unique information about the stability of the plaque inside your arteries. | \$125 |
| <input type="radio"/> ADRENOCORTICOTROPIC HORMONE (ACTH)* (LC004440)
A pituitary function test useful in evaluating adrenocortical dysfunction. | \$91.50 | <input type="radio"/> C-REACTIVE PROTEIN (HIGH-SENSITIVITY) (LC120766)
Measures inflammation factors in arteries. Recent studies indicate that C-reactive protein may be the most accurate risk factor for predicting heart attack and stroke. | \$42 |
| <input type="radio"/> DHEA-SULFATE (LC004697)
This test shows if you are taking the proper amount of DHEA. This test normally costs \$100 or more at commercial laboratories. | \$61 | <input type="radio"/> APOLIPOPROTEIN ASSESSMENT (APO A1 + APO B + RATIO) (LC216010)
This ratio correlates with risk of coronary artery disease and is useful in the presence of borderline elevations of cholesterol. | \$55 |
| <input type="radio"/> DIHYDROTESTOSTERONE (DHT)* (LC500142)
Measures serum concentrations of DHT. | \$99 | <input type="radio"/> FIBRINOGEN* (LC001610)
High levels of this blood-clotting factor increase the risk of heart attack and stroke. | \$31 |
| <input type="radio"/> ESTRADIOL (LC004515)
For men and women. Determines the proper amount in the body. | \$33 | <input type="radio"/> HOMOCYSTEINE (LC706994)
Can indicate if you are likely to have a heart attack or stroke. Even if you take folic acid, you still may have dangerously high levels of this artery-clotting metabolic debris that can be lowered with high doses of TMG and vitamin B6. | \$64 |
| <input type="radio"/> INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN 3 (IGFBP3) (LC140152)
Elevated levels in hypertensive individuals have been associated with a nine-fold increase of carotid arteriosclerosis. | \$47 | <input type="radio"/> VAP™ TEST (LC804500)
The VAP cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. Direct measurements, not estimations, are provided for total cholesterol, LDL, HDL, VLDL, and cholesterol subclasses. | \$90 |
| <input type="radio"/> INSULIN FASTING* (LC004333)
Can predict those at risk of diabetes, obesity, and heart and other diseases. | \$42 | <input type="radio"/> MALE HEALTH
PSA (PROSTATE-SPECIFIC ANTIGEN) (LC010322)
Can provide an early warning sign for prostate disorders and possible cancer. | \$31 |
| <input type="radio"/> PREGNENOLONE* (LC140707)
Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome. | \$116 | <input type="radio"/> FREE-PSA (INCLUDES TOTAL PSA)* (LC480780)
Recommended to determine if an elevated PSA is indicative of prostate cancer. | \$61 |
| <input type="radio"/> PROGESTERONE (LC004317)
Primarily for women. Determines the proper amount in the body. | \$55 | <input type="radio"/> BONE HEALTH
OSTEOCALCIN* (LC010249)
Osteocalcin is often used as a biochemical marker, or biomarker, for the bone formation process. It has been routinely observed that higher serum osteocalcin levels are relatively well correlated with bone diseases characterized by increased bone turnover, especially osteoporosis. | \$91 |
| <input type="radio"/> SEX HORMONE BINDING GLOBULIN (SHBG) (LC082016)
This test is used to monitor SHBG levels which are under the positive control of estrogens and thyroid hormones, and suppressed by androgens. | \$33 | <input type="radio"/> DPD CROSS LINK URINE TEST (LC511105)
The deoxypyridinoline (DPD) urine test can be used to measure bone re-absorption rates in healthy individuals and in those with enhanced risk of developing metabolic bone diseases. Deoxypyridinoline can be used to monitor therapies (which may include bisphosphonate drugs) in people diagnosed with osteoporosis. | \$79 |
| <input type="radio"/> SOMATOMEDIN C (IGF-1) (LC010363)
Indicates growth hormone secretion levels. Low levels have been associated with atherosclerosis as well as all-cause mortality. | \$75 | | |
| <input type="radio"/> TOTAL AND FREE TESTOSTERONE (LC140103)
Determines whether testosterone replacement should be considered as a therapy for depression, abdominal obesity, low energy, poor mental performance, or loss of libido. | \$99 | | |
| <input type="radio"/> URINARY 2/16 ESTROGEN METABOLITE RATIO (LCU73000)
This ratio is relevant as a risk factor for estrogen-sensitive diseases including breast and cervical cancers, osteoporosis, and recurrent respiratory papillomatosis. | \$128 | | |

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DMAE
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Ginkgo Biloba Certified Extract™
Huperzine A
Lecithin with B5 and BHA
Lecithin Granules
Methylcobalamin Lozenges
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Rhodiola Extract
Super Ginkgo Extract
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Solarshield Sunglasses
Super Zeaxanthin with Lutein &
Meso-Zeaxanthin and C3G
(Plus Astaxanthin also available)
Vision Optimizer

FIBER

Apple Pectin Powder
Fiber Food
Hi-Lignan® Nutri-Flax®
WellBetX PGX® Soluble Fiber Blend

FOOD

Asian Cruciferous Vegetable Soup
Cruciferous Vegetable Soup

HAIR CARE

Dr. Proctor's Advanced Hair Formula
Dr. Proctor's Shampoo
Life Extension Shampoo and Conditioner
Super-Absorbable Tocotrienols

HEART HEALTH

Advanced Lipid Control
Aspirin (Enteric Coated)
Cho-Less™
D-Ribose Capsules
D-Ribose Powder
Endothelial Defense™ with
Full-Spectrum Pomegranate™
Fibrinogen Resist
Forskolin
Homocysteine Resist
Natural BP Management
Peak ATP® with GlycoCarn®
Policosanol
Red Yeast Rice
Super Absorbable CoQ10™ with *d*-Limonene
Super Omega-3 EPA/DHA with Sesame
Lignans & Olive Fruit Extract
Super Ubiquinol CoQ10
Super Ubiquinol CoQ10 with Enhanced
Mitochondrial™ Support
Sytrol™
Theaflavin Standardized Extract
TMG Powder
TMG Tablets

HERBAL/PHYTO PRODUCTS

Artichoke Leaf Extract
Astaxanthin
Berry Complete
Blackcurrant Juice Concentrate
Blueberry Extract
Blueberry Extract w/Pomegranate
Butterbur Extract w/Standardized
Rosmarinic Acid
Calcium D-Glucarate
Cilantro Herbal Extract
Citrus Bioflavonoid
Enhanced Berry Complete with RZD™ Acai
Full-Spectrum Pomegranate™
Grapeseed Extract with Resveratrol &
Pterostilbene
Huperzine A with Natural Vitamin E
Kyolic® Garlic Formula 105
Kyolic® Reserve
Mega Green Tea Extract
Mega Green Tea Extract (Decaffeinated)
Mega Lycopene Extract
Nutrim
Optimized Ashwagandha Extract
Pomegranate Extract
Pomegranate Juice Concentrate
ProGreens®
Pure-Gar™
Pycnogenol
Optimized Quercetin
Resveratrol with Synergistic Grape-Berry Actives
Rhodiola Extract
Rosmarinic Acid Extract
Silymarin

SODzyme™ with GliSODin®
Stevia Extract
Super Bio-Curcumin®
Super Curcumin with Bioperine®
Super Ginkgo Extract
Triple Action Cruciferous Vegetable Extract
Venotone
Whole Grape Extract

HORMONES

7-Keto® DHEA
DHEA
DHEA Complete
GH Pituitary Support Day Formula
GH Pituitary Support Night Formula
Melatonin
Melatonin Timed Release
Natural Estrogen with Pomegranate Extract
Pregnenolone
ProFem Cream
Pure IGF
Super Miraforte with Standardized Lignans

IMMUNE ENHANCEMENT

Agave Digestive-Immune Support
AHCC® (Active Hexose Correlated Compound)
Buffered Vitamin C Powder
Echinacea
Enhanced Life Extension Whey Protein
i26 Hyperimmune Egg
Immune Protect with PARACTIN®
Lactoferrin
Lifesield® Immunity™
Maitake SX-Fraction
Norwegian Shark Liver Oil
Primal Defense™
ProBoost™ Thymic Protein A
Pure Gar™
Sambu® Guard
Theralac Capsules
Thymic Immune Factors
Ultimate Flora Advanced Immunity
Vitamin C with Dihydroquercetin
Zinc Lozenges with Vitamin C

INFLAMMATORY REACTIONS

Arthro-Immune Joint Support
ArthroMax™ with Theaflavins
Barlean's Kids DHA
Boswellia
Boswellia™ Topical Cream
Bromelain (Specially-coated)
Coromega Kids Brain and Body (DHA)
DHA 240
Emulsified Norwegian Cod Liver Oil
Emulsified Super Twin EPA/DHA
Fast Acting Joint Formula
Ginger Force
Krill Oil
5-LOXIN®
Mega EPA/DHA
Mega GLA with Sesame Lignans
MSM
Natural Relief 1222™ Cream
Serrafazyme
SODzyme™ with GliSODin® and Wolfberry
Super Omega-3 EPA/DHA with Sesame
Lignans & Olive Fruit Extract
Tart Cherry
Udo's Choice Oil
Zyflamend Easy

LIVER HEALTH

Branch Chain Amino Acids
N-Acetyl Cysteine
Optimized Milk Thistle (Silymarin)
PhosChol® (Nutrasal)
SAME
Silymarin

MINERALS

Biosil
Bone Restore
Bone Strength Formula w/KoAct™
Bone-Up™
Boron Capsules
Calcium Citrate with D3

Chromium Ultra
Copper
Dr. Strum's Intensive Bone Formula
Iodoral
Iron Protein Plus
Magnesium
Magnesium Citrate
Mineral Formula for Men
Mineral Formula for Women
Only Trace Minerals
Optimized Chromium w/Crominex® 3+
OptiZinc
Sea-Iodine™
Selenium
Se-Methylselenocysteine
Strontium
Vanadyl Sulfate
Zinc/Vitamin C Lozenges

MISCELLANEOUS

Blood Pressure Monitor Arm Cuff Medium
Cell Sensor Gauss Meter™
CR Way Edition Advanced Dietary Software
Empty Gelatin Capsules
The Capsule Filler Machine
The Pill Cutter and Grinder

MITOCHONDRIAL SUPPORT

Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
Mitochondrial Basics w/BioPQQ™
Mitochondrial Energy Optimizer w/BioPQQ™
Optimized Carnitine with GlycoCarn®
Super Absorbable CoQ10™ with d-Limonene
Super Alpha Lipoic Acid with Biotin
Super R-Lipoic Acid
Super Ubiquinol CoQ10 with Enhanced Mitochondrial™ Support

MOOD RELIEF

L-Theanine
5 HTP
Natural Stress Relief
Optimized Tryptopure™ Plus
Stabilium® 200
SAME
St. John's Wort Extract
Tryptopure™ L-Tryptophan

MOUTH CARE

Advanced Oral Hygiene
Dr. Tung's Tongue Cleaner
Life Extension Mouthwash w/Pomegranate
Life Extension Toothpaste
Mist Oral III™ with CoQ10

MULTIVITAMIN

Children's Formula Life Extension Mix
Comprehensive Nutrient Pack
Life Extension Booster
Life Extension Mix™ Capsules
Life Extension Mix™ Powder
Life Extension Mix™ Tablets
Life Extension Mix™ w/o Copper Capsules
Life Extension Mix™ w/o Copper Tablets
Life Extension Mix™ w/Extra Niacin
Life Extension Mix™ w/Extra Niacin w/o Copper
Life Extension Mix™ w/Stevia Powder
Life Extension Mix™ w/Stevia w/o Copper Powder
Life Extension One-Per-Day
Life Extension Two-Per-Day
Super Booster Softgels w/Advanced K2 Complex
Vital Greens Mix

PET CARE

Life Extension Cat Mix
Life Extension Dog Mix

PROSTATE & URINARY HEALTH

Better WOMAN®
Optimized Cran-Max® with UTIRose™
5-LOXIN®
(Water-Soluble) Pumpkin Seed Extract

Super Saw Palmetto with Beta-Sitosterol
Super Saw Palmetto/Nettle Root Formula
w/Beta-Sitosterol
Ultra Natural Prostate Formula

SKIN CARE

Anti-Aging Mask
Anti-Glycation Serum
Antioxidant Rejuvenating Foot Cream
Antioxidant Rejuvenating Foot Scrub
Antioxidant Rejuvenating Hand Cream
Antioxidant Rejuvenating Hand Scrub
Anti-Redness & Blemish Lotion
Cellulite Suppress™ Formula
Corrective Clearing Mask
DermaWhey
Dual-Action MicroDerm Abrasion
Essential Plant Lipids Reparative Serum
Face Master® Platinum
Face Rejuvenating Antioxidant Cream
Enhanced FernBlock® with Sendara™
Fine Line-Less
Hair Suppress Formula
Healing Formula All-in-One Cream
Healing Mask
Hyaluronic Facial Moisturizer
Hydrating Anti-oxidant Face Mist
Hydroderm®
Lavinil Underarm Deodorant
Lifting & Tightening Complex
Melatonin Cream
Mild Facial Cleanser
NaPCA w/Aloe Vera
Neck Rejuvenating Antioxidant Cream
New Face Solution
Peel Off Cleansing Mask
Pigment Correcting Cream
(Ultra) Rejuvenex®
Rejuvenex® Body Lotion
RejuvenexX® Factor
Rejuvenating Serum
Skin Lightening Serum
Skin Restoring Ceramides w/Lipowheat™
Skin Stem Cell Serum
Sun Protection Spray
Total Sun Protection Cream
Triple Action Under Eye Rejuvenator
Ultra Rejuvenex®
Ultra RejuveNight® w/ Progesterone
Ultra RejuveNight® w/o Progesterone
Ultra Lip Plumper
Ultra Wrinkle Relaxer
Under Eye Refining Serum
Under Eye Rescue Cream
Vitamin C Serum
Vitamin D Lotion
Vitamin K Healing Cream

SOY

Natural Estrogen w/Pomegranate
Soy Protein Concentrate
Super Absorbable Soy Isoflavones
Ultra Soy Extract

SPECIAL PURPOSE FORMULA

Anti-Alcohol Antioxidants w/HepatoProtection
Complex
Benfotiamine w/Thiamine
Breast Health Formula
Butterbur Extract w/Standardized
Rosmarinic Acid
Chlorella
Chlorophyllin w/Zinc
Coriolus Super Strength
CR Mimetic Longevity Formula
Derma-Vits™
Cinsulin® w/InSea2™
and Crominex® 3+
EDTA
European Leg Solution Diosmin 95
Fem Dophilus
Femmenessence MacaPause®
GlucoFit™
Ideal Bowel Support 299V

Lustre™
Maitake SX-Fraction™
Menopause Solutions
Migra-eeze™
Natural Female Support
Organic Total Body Cleanse
Pecta-Sol®
Potassium Iodide
PQQ Caps with BioPQQ™
Prelox® Natural Sex for Men®
Pyridoxal 5' - Phosphate
Rosmarinic Acid Extract

SPORTS PERFORMANCE

Creatine Capsules
Creatine Powder
Enhanced Life Extension Protein
DMG (N, N-dimethylglycine)
Inosine
L-Glutamine Capsules
L-Glutamine Powder
Octacosanol

VITAMINS

Ascorbic Acid Powder
Ascorbyl Palmitate Capsules
B1
B2
B12
Beta-Carotene
Biotin Capsules
Biotin Powder
Buffered Vitamin C Powder
Complete B Complex
Essential Fat-Soluble Nutrient
Folic Acid + B12
Gamma E Tocopherol w/Sesame Lignans
Gamma E Tocopherol/Tocotrienols
Inositol Capsules
Inositol Powder
Mega Lycopene Extract
Methylcobalamin
MK-7
No-Flush Niacin
Optimized Folate
PABA Capsules
Super Ascorbate C Capsules
Super Ascorbate C Powder
Super K w/Advanced K2 Complex
Tocotrienols w/Sesame Lignans
Vitamin A Nutrisorb
Vitamin B3 (Niacin) Capsules
Vitamin B6
Vitamin B12 Tablets
Vitamin C
Vitamin D
Vitamin D3
Vitamin D3 w/Sea-Iodine™
Vitamins D and K w/Sea-Iodine™
Vitamin E
Vitamin K1

WEIGHT MANAGEMENT

Alli® Refill Pack
Belly Slim & Tone
Calorie Control Weight Management Formula
7-Keto DHEA
DHEA Complete
Fucoxanthin Slim™
HCA
Integra-Lean® Irvingia
LuraLean® Caps Special Propolmannan
Particle Size
Optimized Irvingia w/Phase 3™ Calorie
Control Complex
Optimized Saffron with Satiereal®
Natural Appetite Control
Natural Glucose Absorption Control
Stevia Liquid Extract
Super CLA Blend w/Guarana and
Sesame Lignans
Super CLA Blend w/Sesame Lignans
Udo's Choice Wholesome Fast Food Blend
WellBetX PGX® Soluble Fiber Blend

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
A					
00449	ACETYL-L-CARNITINE - 500 mg, 100 caps	\$56.00	\$42.00		
	ACETYL-L-CARNITINE - 4 bottles of 100 caps	186.64	139.98		
00788	ACETYL-L-CARNITINE ARGINATE - 100 caps	59.00	44.25		
	ACETYL-L-CARNITINE ARGINATE - 4 bottles of 100 caps	203.96	152.97		
01308	ADVANCED LIPID CONTROL - 60 veg. caps	30.00	22.50		
	ADVANCED LIPID CONTROL - 4 bottles of 60 veg. caps	108.00	81.00		
01300	ADVANCED ORAL HYGIENE - 60 veg. mint lozenges	20.00	15.00		
	ADVANCED ORAL HYGIENE - 4 bottles of 60 veg. mint lozenges	72.00	54.00		
01417	AGAVE DIGESTIVE-IMMUNE SUPPORT - 360 grams of powder	30.00	22.50		
	AGAVE DIGESTIVE-IMMUNE SUPPORT - 4 jars of powder	108.00	81.00		
00681	AHCC - 500 mg, 30 caps	48.98	36.74		
	AHCC - 4 bottles of 30 caps	174.20	130.65		
46925	ALLI® REFILL PACK - 60 mg, 120 caps	69.95	58.00		
00457	ALPHA-LIPOIC ACID w/BIOTIN (SUPER) - 250 mg, 60 caps	37.00	27.75		
	ALPHA-LIPOIC ACID w/BIOTIN (SUPER) - 4 bottles of 60 caps	128.00	96.00		
01440	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 100 caps	26.00	19.50		
	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 4 bottles of 100 caps	92.00	69.00		
00105	APPLE PECTIN POWDER - 227 grams	14.75	11.06		
	APPLE PECTIN POWDER - 4 bottles	55.00	41.25		
01012	ARGININE CAPS - 800 mg, 200 caps	26.50	19.88		
	ARGININE CAPS - 4 bottles of 200 caps	93.00	69.75		
01039	ARGININE/ORNITHINE CAPS - 500/250, 100 caps	16.00	12.00		
	ARGININE/ORNITHINE CAPS - 4 bottles of 100 caps	58.00	43.50		
00038	ARGININE/ORNITHINE POWDER - 150 grams	22.95	17.21		
	ARGININE/ORNITHINE POWDER - 4 bottles	76.00	57.00		
01025	(L)-ARGININE FREE-FORM POWDER - 100 grams	15.98	11.99		
	(L)-ARGININE FREE-FORM POWDER - 4 bottles	57.24	42.93		
01317	ARTHRONAX™ w/THEAFLAVINS - 120 veg. caps	44.00	33.00		
	ARTHRONAX™ w/THEAFLAVINS - 4 bottles of 120 veg. caps	160.00	120.00		
01404	ARTHRO-IMMUNE JOINT SUPPORT - 60 veg. caps	30.00	22.50		
	ARTHRO-IMMUNE JOINT SUPPORT - 4 bottles of 60 veg. caps	104.00	78.00		
00919	ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps	28.00	21.00		
	ARTICHOKE LEAF EXTRACT - 4 bottles of 180 veg. caps	101.52	76.14		
00086	ASCORBATE C (SUPER) - 8 oz of powder	26.99	20.24		
	ASCORBATE C (SUPER) - 4 bottles of powder	99.48	74.61		
00080	ASCORBIC ACID POWDER - 454 grams	38.00	28.50		
	ASCORBIC ACID POWDER - 4 bottles	139.72	104.79		
00082	ASCORBYL PALMITATE - 500 mg, 100 caps	22.50	16.88		
	ASCORBYL PALMITATE - 4 bottles of 100 caps	80.00	60.00		
00888	ASHWAGANDHA EXTRACT (OPTIMIZED) - 60 veg. caps	10.00	7.50		
	ASHWAGANDHA EXTRACT (OPTIMIZED) - 4 bottles of 60 veg. caps	36.00	27.00		
01066	ASPIRIN - 81 mg, 300 enteric coated tablets	6.00	4.50		
	ASPIRIN - 4 bottles of 300 enteric coated tablets	21.32	16.00		
00708	ASTAXANTHIN - 2 mg, 30 softgels	10.25	7.69		

* These products are not 25% off retail price.

SUB-TOTAL OF COLUMN 1

No.		Retail	Member Price	Qty	Total
B					
01040	BELLY SLIM & TONE - 6 fl oz	\$42.00	\$31.50		
	BELLY SLIM & TONE - 4 bottles of 6 fl oz	152.00	114.00		
00920	BENFOTIAMINE w/ THIAMINE - 100 mg, 120 veg. caps	19.95	14.96		
	BENFOTIAMINE w/ THIAMINE - 4 bottles of 120 veg. caps	74.40	55.80		
00925	BENFOTIAMINE (MEGA) - 250 mg, 120 veg. caps	30.00	22.50		
	BENFOTIAMINE (MEGA) - 4 bottles of 120 veg. caps	108.00	81.00		
01206	BERRY COMPLETE - 30 veg. caps	21.00	15.75		
	BERRY COMPLETE - 4 bottles of veg. caps	74.68	56.00		
01406	BERRY COMPLETE w/RZD™ ACAI (ENHANCED) - 60 veg. caps	29.00	21.75		
	BERRY COMPLETE w/RZD™ ACAI (ENHANCED) - 4 bottles of veg. caps	104.00	78.00		
00664	BETA-CAROTENE - 25,000 IU, 100 softgels	10.98	8.24		
	BETA-CAROTENE - 4 bottles of 100 softgels	39.32	29.49		
00653	BETTER WOMAN® -40 caps	40.00	30.00		
	BETTER WOMAN® - 4 bottles of 40 caps	152.00	114.00		
01073	BILBERRY EXTRACT - 100 mg, 100 veg. caps	28.00	21.00		
	BILBERRY EXTRACT - 4 bottles of 100 veg. caps	100.00	75.00		
*01006	BIOSIL™ - 5 mg, 30 veg. caps	18.95	15.16		
*01007	BIOSIL™ - 30 fl ml	29.99	23.99		
00102	BIOTIN CAPSULES - 600 mcg, 100 caps	7.50	5.63		
	BIOTIN CAPSULES - 4 bottles of 100 caps	26.00	19.50		
00145	BIOTIN POWDER - 30 grams	12.50	9.38		
	BIOTIN POWDER - 4 bottles	44.00	33.00		
01037	BLACKCURRANT FREEZE DRIED EXTRACT - 60 veg. caps	21.95	16.46		
01034	BLACKCURRANT JUICE CONCENTRATE - 12 fl. oz	17.95	13.46		
01008	BLAST™ - 600 grams of powder	26.95	20.21		
70000	BLOOD PRESSURE MONITOR-ARM CUFF (medium)	99.95	64.97		
70001	BLOOD PRESSURE MONITOR-WRIST (travel size)	69.95	45.47		
01214	BLUEBERRY EXTRACT - 60 veg. caps	22.50	16.88		
	BLUEBERRY EXTRACT - 4 bottles of 60 veg. caps	80.00	60.00		
01438	BLUEBERRY EXTRACT w/ POMEGRANATE - 60 veg. caps	30.00	22.50		
	BLUEBERRY EXTRACT w/ POMEGRANATE - 4 bottles of 60 veg. caps	108.00	81.00		
01506	BONE FORMULA (DR. STRUM'S INTENSIVE) - 300 veg. caps	56.00	42.00		
	BONE FORMULA (DR. STRUM'S INTENSIVE) - 4 bottles of 300 veg. caps	200.00	150.00		
00811	BONE RESTORE - 150 caps	22.50	16.88		
	BONE RESTORE - 4 bottles of 150 caps	78.00	58.50		
01211	BONE STRENGTH FORMULA w/KOACT™ - 120 caps	42.00	31.50		
	BONE STRENGTH FORMULA w/KOACT™ - 4 bottles of 120 caps	152.00	114.00		
00313	BONE-UP® - 240 caps	24.95	18.71		
	BONE-UP® - 4 bottles of 240 caps	90.00	67.50		
01379	BOOSTER - 60 softgels	48.00	36.00		
	BOOSTER - 4 bottles of 60 softgels	176.00	132.00		
01380	BOOSTER w/ADVANCED K2 COMPLEX (SUPER) - 60 softgels	42.00	31.50		
	BOOSTER w/ADVANCED K2 COMPLEX (SUPER) - 4 bottles of 60 softgels	152.00	114.00		
00621	BORON - 3 mg, 100 caps	5.95	4.46		
	BORON - 4 bottles of 100 caps	21.00	15.75		
00202	BOSWELLA - 100 caps	38.00	28.50		
	BOSWELLA - 4 bottles of 100 caps	120.00	90.00		
00258	BOSWELLA TOPICAL CREAM - 4 oz jar	15.00	11.25		
	BOSWELLA TOPICAL CREAM - 4 jars	52.00	39.00		
00253	BRANCHED CHAIN AMINO ACIDS - 90 caps	19.50	14.63		
	BRANCHED CHAIN AMINO ACIDS - 4 bottles of 90 caps	68.00	51.00		

SUB-TOTAL OF COLUMN 2

No.		Retail	Member Price	Qty	Total
00999	BREAST HEALTH FORMULA - 60 veg. caps	\$34.00	\$25.50		
	BREAST HEALTH FORMULA - 4 bottles of 60 veg. caps	120.00	90.00		
00893	BRITE EYES III - 2 vials, 5 ml each	34.00	25.50		
	BRITE EYES III - 4 boxes	128.00	96.00		
00136	BROMELAIN POWDER - 100 grams	21.00	15.75		
	BROMELAIN POWDER - 4 bottles	75.00	56.25		
01203	BROMELAIN (SPECIALLY-COATED) - 500 mg, 60 enteric coated tablets	21.00	15.75		
	BROMELAIN (SPECIALLY-COATED) - 4 bottles of 60 tablets	76.00	57.00		
00884	BUTTERBUR EXT. w/STANDARDIZED ROSMARINIC ACID - 60 softgels	44.00	33.00		
	BUTTERBUR EXT. w/ STANDARDIZED ROSMARINIC ACID - 4 bottles of 60 softgels	158.40	118.80		
C					
01015	CALCIUM CITRATE w/VITAMIN D - 300 caps	\$24.00	\$18.00		
	CALCIUM CITRATE w/VITAMIN D - 4 bottles of 300 caps	85.00	63.75		
00535	CALCIUM D-GLUCARATE - 200 mg, 60 caps	18.00	13.50		
	CALCIUM D-GLUCARATE - 4 bottles of 60 caps	60.00	45.00		
01493	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 402 grams powder	56.00	42.00		
	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 4 jars of 402 grams powder	192.00	144.00		
	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 8 jars of 402 grams powder	352.00	264.00		
00118	CAPSULE FILLER MACHINE FOR "00" CAPSULES	17.95	13.46		
	CAPSULE FILLER MACHINE FOR "00" CAPSULES - 4 machines	69.00	51.75		
00613	CAPSULE FILLER MACHINE FOR "0" CAPSULES	17.95	13.46		
	CAPSULE FILLER MACHINE FOR "0" CAPSULES - 4 machines	69.00	51.75		
00916	CARNITINE w/GLYCOCARN® (OPTIMIZED) - 60 veg. caps	29.00	21.75		
	CARNITINE w/GLYCOCARN® (OPTIMIZED) - 4 bottles of 60 veg. caps	104.40	78.30		
01041	L-CARNITINE - 500 mg, 30 caps	15.00	11.25		
	L-CARNITINE - 4 bottles of 30 caps	52.80	39.60		
01258	CARNOOOTHIE w/PICROPROTECT™ - 60 veg. caps	29.95	22.46		
	CARNOOOTHIE w/PICROPROTECT™ - 4 bottles of 60 veg. caps	108.00	81.00		
01287	CARNOSINE (SUPER) - 500 mg, 90 caps	66.00	49.50		
	CARNOSINE (SUPER) - 4 bottles of 90 caps	240.00	180.00		
01011	CELLULITE SUPPRESS™ FORMULA - 6 fl. oz	58.00	43.50		
	CELLULITE SUPPRESS™ FORMULA - 4-6oz bottles	208.00	156.00		
00390	CDP CHOLINE CAPS - 250 mg, 60 caps	36.00	27.00		
	CDP CHOLINE CAPS - 4 bottles of 60 caps	136.00	102.00		
00998	CELL SENSOR-EMF DETECTION METER	39.95	29.95		
01370	CHILDREN'S FORMULA LIFE EXTENSION™ MIX - 100 chewable tablets	18.00	13.50		
	CHILDREN'S FORMULA LIFE EXTENSION™ MIX - 4 bottles	64.00	48.00		
00550	CHLORELLA - 500 mg, 200 tablets	23.50	17.63		
	CHLORELLA - 4 bottles of 200 tablets	84.00	63.00		
01548	CHLOROPHYLLIN w/ZINC - 100 softgels	24.00	18.00		
	CHLOROPHYLLIN w/ZINC - 4 bottles of 100 softgels	80.00	60.00		
*01359	CHO-LESS™ - 90 capsules	32.50	24.38		
00541	CHOLINE CHLORIDE - 16 oz liquid	14.95	11.21		
	CHOLINE CHLORIDE - 4 bottles of 16 oz liquid	56.00	42.00		
00364	CHONDROITIN SULFATE CONCENTRATE - 400 mg, 60 tablets	19.95	14.96		
	CHONDROITIN SULFATE CONCENTRATE - 4 bottles of 60 tablets	72.00	54.00		
01218	CHROMIUM ULTRA - 100 veg. caps	24.00	18.00		
	CHROMIUM ULTRA - 4 bottles of 100 veg. caps	84.00	63.00		
01504	CHROMIUM W/CROMINEX® 3+ (OPTIMIZED) - 500 mcg, 60 veg. caps	9.00	6.75		
	CHROMIUM W/CROMINEX® 3+ (OPTIMIZED) - 4 bottles of 60 veg. caps	32.00	24.00		
00551	CILANTRO HERBAL EXTRACT - 1 oz	12.00	9.00		
	CILANTRO HERBAL EXTRACT - 4 bottles of 1oz	44.00	33.00		

* Not for sale to wholesalers or retail stores.

SUB-TOTAL OF COLUMN 3

No.		Retail	Member Price	Qty	Total
01503	CINSULIN® w/INSEA™ AND CROMINEX® 3+ - 90 veg. caps	\$38.00	\$28.50		
	CINSULIN® w/INSEA™ AND CROMINEX® 3+ - 4 bottles of 90 veg. caps	136.00	102.00		
00069	CITRUS BIOFLAVONOID - 100 caps	15.99	11.99		
	CITRUS BIOFLAVONOID - 4 bottles of 100 caps	59.28	44.46		
00818	CLA BLEND W/SESAME LIGNANS (SUPER) - 1000 mg, 120 softgels	36.00	27.00		
	CLA BLEND w/SESAME LIGNANS (SUPER) - 4 bottles of 120 softgels	132.00	99.00		
	CLA BLEND w/SESAME LIGNANS (SUPER) - 10 bottles, 120 softgels	263.30	197.48		
00819	CLA BLEND w/GUARANA & SESAME (SUPER)-1000 mg, 120 softgels	42.00	31.50		
	CLA BLEND w/GUARANA & SESAME (SUPER)- 4 btl of 120 softgels	153.32	114.99		
00050	COD LIVER OIL - 12 fl oz (355 ml) (Emulsified)	14.58	10.94		
	COD LIVER OIL - 4 bottles of 12 fl oz (355 ml)	49.08	36.81		
00293	COD LIVER OIL - 100 softgels (Emulsified)	9.95	7.46		
	COD LIVER OIL - 4 bottles of 100 softgels	37.52	28.14		
00922	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 90 softgels	74.00	55.50		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 4 btl of 90 softgels	266.40	199.80		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 12 btl of 90 softgels	768.00	576.00		
00921	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 90 softgels	72.00	54.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 4 bottles of 90 softgels	256.00	192.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 12 bottles of 90 softgels	744.00	558.00		
01421	COGNITEX BASICS - 60 softgels	38.00	28.50		
	COGNITEX BASICS - 4 bottles of 60 softgels	140.00	105.00		
	COGNITEX BASICS - 12 bottles of 60 softgels	384.00	288.00		
00110	COMPLETE B-COMPLEX - 180 caps	21.50	16.13		
	COMPLETE B-COMPLEX - 4 bottles of 180 caps	72.00	54.00		
01574	COMPREHENSIVE NUTRIENT PACK - 30-day supply	189.00	141.75		
	COMPREHENSIVE NUTRIENT PACK - 120-day supply	684.00	513.00		
00119	COPPER CAPSULES - 2 mg, 100 caps	8.95	6.71		
	COPPER CAPSULES - 4 bottles of 100 caps	32.36	24.27		
00949	COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE) - 50 mg, 60 softgels	25.00	18.75		
	COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE) - 4 bottles of 60 softgels	88.00	66.00		
	COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE) - 10 bottles of 60 softgels	200.00	150.00		
00950	COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE) - 100 mg, 100 softgels	66.00	49.50		
	COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE) - 4 bottles of 100 softgels	240.00	180.00		
	COQ10™ w/ d-LIMONENE (SUPER ABSORBABLE) - 10 bottles of 100 softgels	560.00	420.00		
01226	COQ10 (SUPER UBIQUINOL) - 100 mg, 60 softgels	56.00	42.00		
	COQ10 (SUPER UBIQUINOL) - 4 bottles of 60 softgels	208.00	156.00		
	COQ10 (SUPER UBIQUINOL) - 10 bottles of 60 softgels	480.00	360.00		
01426	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-100 mg, 60 softgels	62.00	46.50		
	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-4 bot of 60 softgels	224.00	168.00		
	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-10 bot of 60 softgels	520.00	390.00		
01425	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-50 mg, 100 softgels	58.00	43.50		
	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-4 bot of 100 softgels	212.00	159.00		
	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-10 bot of 100 softgels	500.00	375.00		
01427	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-50 mg, 30 softgels	20.00	15.00		
	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-4 bot of 30 softgels	72.00	54.00		
01431	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-200 mg, 30 softgels	62.00	46.50		
	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-4 bot of 30 softgels	224.00	168.00		
	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL)-10 bot of 30 softgels	520.00	390.00		
01053	CORIOLUS SUPER STRENGTH - 600 mg, 150 veg. caps	99.95	74.96		
00857	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 30 packets	25.00	18.75		
	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 4 boxes of 30 packets	90.00	67.00		

SUB-TOTAL OF COLUMN 4

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
C CONTINUED					
80118	COSMESIS ANTI-AGING MASK - 2 oz bottle	\$72.00	\$54.00		
	COSMESIS ANTI-AGING MASK - 2-2 oz bottles	126.72	95.04		
80134	COSMESIS ANTI-GLYCATION SERUM - 1 oz bottle w/BLUEBERRY & POMEGRANATE EXTRACTS	33.00	24.75		
	COSMESIS ANTI-GLYCATION SERUM - 2-1 oz bottles w/BLUEBERRY & POMEGRANATE EXTRACTS	62.70	47.02		
80133	COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz bottle	32.00	24.00		
	COSMESIS ANTIOXIDANT FACIAL MIST - 2-2 oz bottles	60.80	45.60		
80127	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz jar	45.00	33.75		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2-2 oz jar	85.60	64.20		
80128	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz jar	59.00	44.25		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2-2 oz jar	103.84	77.88		
80117	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz jar	64.00	48.00		
	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2-2 oz jars	114.98	86.24		
80121	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz jar	58.00	43.50		
	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2-2 oz jars	102.08	76.56		
80105	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 1 oz	74.50	55.88		
	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 2-1 oz bottles	131.12	98.34		
80120	COSMESIS CORRECTIVE CLEARING MASK - 2 oz jar	64.50	48.38		
	COSMESIS CORRECTIVE CLEARING MASK - 2-2 oz jars	113.52	85.14		
80108	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz	74.95	56.21		
	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 2-1 oz bottles	131.90	98.92		
80123	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	69.50	52.13		
	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	122.32	91.74		
80107	COSMESIS FINE LINE-LESS - 1 oz	74.50	55.88		
	COSMESIS FINE LINE-LESS - 2-1 oz bottles	131.12	98.34		
80131	COSMESIS HAIR SUPPRESS FORMULA - 4 oz bottle	59.00	44.25		
	COSMESIS HAIR SUPPRESS FORMULA - 2- 4 oz bottles	103.84	77.88		
80137	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 oz jar	53.00	39.75		
	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 2-1 oz jars	90.86	68.14		
80115	COSMESIS HEALING MASK - 2 oz bottle	64.50	48.38		
	COSMESIS HEALING MASK - 2-2 oz bottles	113.52	85.14		
80109	COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz	58.00	43.50		
	COSMESIS HYALURONIC FACIAL MOISTURIZER - 2 bottles of 1 oz	102.08	76.56		
80110	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz	58.00	43.50		
	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 2 btl's of 1 oz	102.08	76.56		
80138	COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 4 oz bottle	39.95	29.96		
	COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 2 bottles of 4 oz	76.00	57.00		
80103	COSMESIS LIFTING & TIGHTENING COMPLEX - 1 oz	74.50	55.88		
	COSMESIS LIFTING & TIGHTENING COMPLEX - 2 bottles of 1 oz	131.12	98.34		
80135	COSMESIS MELATONIN CREAM - 1 oz jar	33.00	24.75		
	COSMESIS MELATONIN CREAM - 2 - 1 oz jars	54.20	40.65		
80114	COSMESIS MILD FACIAL CLEANSER - 8 oz	59.00	44.25		
	COSMESIS MILD FACIAL CLEANSER - 2 bottles of 8 oz	103.84	77.88		
80122	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	64.00	48.00		
	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	112.64	84.48		
80119	COSMESIS PEEL OFF CLEANSING MASK - 2 oz bottle	64.50	48.38		
	COSMESIS PEEL OFF CLEANSING MASK - 2-2 oz bottles	113.52	85.14		
80111	COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz	74.00	55.50		
	COSMESIS PIGMENT CORRECTING CREAM - 2 bottles of 1/2 oz	130.24	97.68		
80106	COSMESIS REJUVENATING SERUM - 1 oz	74.50	55.88		
	COSMESIS REJUVENATING SERUM - 2 bottles of 1 oz	131.12	98.34		
80112	COSMESIS SKIN LIGHTENING SERUM - 1/2 oz	85.00	63.75		
	COSMESIS SKIN LIGHTENING SERUM - 2 bottles of 1/2 oz	149.60	112.20		

SUB-TOTAL OF COLUMN 5

No.		Retail	Member Price	Qty	Total
80130	COSMESIS SKIN STEM CELL SERUM - 1 oz	\$74.00	\$55.50		
	COSMESIS SKIN STEM CELL SERUM - 2 bottles of 1 oz	138.00	103.50		
80116	COSMESIS ULTRA LIP PLUMPER - 1/3 oz	64.00	48.00		
	COSMESIS ULTRA LIP PLUMPER - 2 bottles of 1/3 oz	112.64	84.48		
80101	COSMESIS ULTRA WRINKLE RELAXER - 1 oz	89.95	67.46		
	COSMESIS ULTRA WRINKLE RELAXER - 2 bottles of 1 oz	159.52	119.64		
80113	COSMESIS UNDER EYE REFINING SERUM - 1/2 oz	74.50	55.88		
	COSMESIS UNDER EYE REFINING SERUM - 2 bottles of 1/2 oz	131.12	98.34		
80104	COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz	74.50	55.88		
	COSMESIS UNDER EYE RESCUE CREAM - 2 bottles of 1/2 oz	131.12	98.34		
80129	COSMESIS VITAMIN C SERUM - 1 oz	85.00	63.75		
	COSMESIS VITAMIN C SERUM - 2 bottles of 1 oz	149.60	112.20		
80136	COSMESIS VITAMIN D LOTION - 4 oz	36.00	27.00		
	COSMESIS VITAMIN D LOTION - 2 bottles of 4 oz	67.32	50.49		
80102	COSMESIS VITAMIN K HEALING CREAM - 1 oz	79.50	59.63		
	COSMESIS VITAMIN K HEALING CREAM - 2 bottles of 1 oz	139.92	104.94		
00862	CRAN-MAX® - 500 mg, 60 veg. caps	17.50	13.13		
	CRAN-MAX® - 4 bottles of 60 veg. caps	60.00	45.00		
01424	CRAN-MAX® with UTIROSE™ (OPTIMIZED) - 60 veg. caps	18.00	13.50		
	CRAN-MAX® with UTIROSE™ (OPTIMIZED) - 4 bottles of 60 veg. caps	64.00	48.00		
00609	CREATINE CAPS - 120 caps	10.95	8.21		
	CREATINE CAPS - 4 bottles of 120 caps	37.00	27.75		
00610	CREATINE POWDER - 500 grams	29.00	21.75		
	CREATINE POWDER - 4 bottles	106.52	79.89		
01096	CREATINE WHEY GLUTAMINE POWDER - 1000 grams vanilla	45.00	33.75		
	CREATINE WHEY GLUTAMINE POWDER - 4 bottles	168.00	126.00		
01089	CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch	11.95	8.96		
	CRUCIFEROUS VEGETABLE SOUP - 6 - 32 oz. pouch	67.50	50.63		
01090	(ASIAN) CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch	11.95	8.96		
	(ASIAN) CRUCIFEROUS VEGETABLE SOUP - 6 - 32 oz. pouch	67.50	50.63		
01429	CR MIMETIC LONGEVITY FORMULA - 60 veg. caps	39.00	29.25		
	CR MIMETIC LONGEVITY FORMULA - 4 bottles of 60 veg. caps	144.00	108.00		
*CRWAY	CR WAY OPTIMAL HEALTH PROGRAM SOFTWARE	195.00	195.00		
00912	CURCUMIN W/BIOPERINE® (SUPER) - 800 mg, 60 caps	26.00	19.50		
	CURCUMIN W/BIOPERINE® (SUPER) - 4 bottles of 60 caps	96.00	72.00		
00407	CURCUMIN® (SUPER BIO) - 400 mg, 60 veg. caps	35.00	26.25		
	CURCUMIN® (SUPER BIO) - 4 bottles of 60 veg. caps	128.00	96.00		
00064	(L) CYSTEINE - 500 mg, 60 caps	18.95	14.21		
	(L) CYSTEINE - 4 bottles of 60 caps	65.24	48.93		
D					
01063	DERMA-VITS™ - 90 caps	\$14.99	\$11.24		
01313	DERMAWHEY- 400 mg, 60 caps	65.00	48.75		
	DERMAWHEY- 4 bottles of 60 caps	236.00	177.00		
00856	DHA (BARLEAN'S KID'S) (Fruit Punch Flavor)- 8 fl. oz	22.00	16.50		
	DHA (BARLEAN'S KID'S) (Fruit Punch Flavor)- 4 bottles of 8 fl. oz	80.00	60.00		
00995	DHA 240 - 240 mg, 60 softgels	19.00	14.25		
	DHA 240 - 4 bottles of 60 softgels	68.00	51.00		
00658	7-KETO® DHEA METABOLITE - 25 mg, 100 caps	28.00	21.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 100 caps	96.00	72.00		
01271	7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps	40.00	30.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 60 veg. caps	144.00	108.00		
00607	DHEA - 25 mg, 100 tablets	14.00	10.50		
	DHEA - 4 bottles of 100 tablets	47.00	35.25		

* Not eligible for member discount or member renewal product credit.

SUB-TOTAL OF COLUMN 6

No.		Retail	Member Price	Qty	Total
01250	DHEA COMPLETE - 60 veg. caps	\$48.00	\$36.00		
	DHEA COMPLETE - 4 bottles of 60 veg. caps	172.80	129.60		
00335	DHEA - 25 mg, 100 caps	15.00	11.25		
	DHEA - 4 bottles of 100 caps	50.00	37.50		
00454	DHEA - 15 mg, 100 caps	12.00	9.00		
	DHEA - 4 bottles of 100 caps	40.00	30.00		
00882	DHEA - 50 mg, 60 caps	16.00	12.00		
	DHEA - 4 bottles of 60 caps	56.00	42.00		
00883	DHEA - 100 mg, 60 caps	22.50	16.88		
	DHEA - 4 bottles of 60 caps	76.00	57.00		
01358	DIGEST RC - 30 tablets	19.95	14.96		
	DIGEST RC - 4 boxes of 30 tablets	68.00	51.00		
01272	DIGESTIVE ENZYMES (ENHANCED SUPER)- 100 veg. caps	18.95	14.21		
	DIGESTIVE ENZYMES (ENHANCED SUPER)- 4 bottles of 100 veg. caps	64.00	48.00		
01273	DIGESTIVE ENZYMES w/PROBIOTICS (ENHANCED SUPER) - 100 veg. caps	24.00	18.00		
	DIGESTIVE ENZYMES w/PROBIOTICS (ENHANCED SUPER) - 4 bottles of 100 veg. caps	88.00	66.00		
*01042	EUROPEAN LEG SOLUTION DIOSMIN 95 - 600 mg, 30 veg. tabs	20.00	15.00		
	EUROPEAN LEG SOLUTION DIOSMIN 95 - 4 bottles of 30 veg. tabs	72.00	54.00		
00034	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 caps	18.75	14.06		
	D,L-PHENYLALANINE CAPSULES - 4 bottles of 100 caps	64.00	48.00		
00257	DMAE BITARTRATE - 150 mg, 200 caps	14.00	10.50		
	DMAE BITARTRATE - 4 bottles of 200 caps	42.00	31.50		
00197	DMAE-GINKGO - 100 caps	36.00	27.00		
	DMAE-GINKGO - 4 bottles of 100 caps	120.00	90.00		
	DMAE-GINKGO - 8 bottles of 100 caps	220.00	165.00		
00059	DMG - 125 mg, 60 tablets	18.50	13.88		
	DMG - 4 boxes of 60 tablets	68.00	51.00		
01547	DNA PROTECTION FORMULA - 60 veg. caps	30.00	22.50		
	DNA PROTECTION FORMULA - 4 bottles of 60 veg. caps	112.00	84.00		
00321	DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 oz	39.95	29.96		
	DR. PROCTOR'S ADVANCED HAIR FORMULA - 4 bottles	128.00	96.00		
00320	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 oz bottle	24.95	18.71		
	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 4 bottles	88.00	66.00		
00376	DR. TUNG'S TONGUE CLEANER	8.45	6.34		
	DR. TUNG'S TONGUE CLEANERS - 4 quantity	32.20	24.15		
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 net oz jar	39.95	29.96		
	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 4 jars of 2.4 net oz	155.80	116.85		
00240	DUAL-C - 90 caps	12.00	9.00		
	DUAL-C - 4 bottles of 90 caps	42.00	31.50		
E					
00388	ECHINACEA EXTRACT - 250 mg, 60 caps	\$14.35	\$10.76		
	ECHINACEA EXTRACT- 4 bottles of 60 caps	50.00	37.50		
01024	EDTA - 500 mg, 100 caps	17.50	13.13		
00048	EMULSIFIED SUPER TWIN EPA/DHA - 12 fl. oz.	22.45	16.84		
01498	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 60 softgels	56.00	42.00		
	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 4 bottles of 60 softgels	208.00	156.00		
00997	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 60 veg. caps	52.00	39.00		
	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 4 bottles of 60 veg. caps	184.00	138.00		
00625	EPA/DHA (MEGA) - 120 softgels	19.95	14.96		
	EPA/DHA (MEGA) - 4 bottles of 120 softgels	72.00	54.00		
01428	ESSENTIAL FAT-SOLUBLE NUTRIENTS - 30 softgels	28.00	21.00		
	ESSENTIAL FAT-SOLUBLE NUTRIENTS - 4 bottles of 30 softgels	100.00	75.00		
F					
*01054	FACE MASTER® PLATINUM	\$199.00	\$199.00		
00965	FAST-ACTING JOINT FORMULA - 30 caps	39.00	29.25		
	FAST-ACTING JOINT FORMULA - 4 bottles of 30 caps	144.00	108.00		
20053	FEM DOPHILUS® - 30 caps	24.95	18.71		

SUB-TOTAL OF COLUMN 7

No.		Retail	Member Price	Qty	Total
20055	FEM DOPHILUS® - 60 caps	\$35.95	\$26.96		
01064	FEMMENESENCE MACAPAUSE® - 120 veg. caps	34.99	26.24		
*01311	FERNBLOCK® w/SENDARA™ (ENHANCED) - 30 veg. caps	39.00	29.25		
	FERNBLOCK® w/SENDARA™ (ENHANCED) - 4 bottles of 30 veg. caps	140.00	105.00		
00229	FIBER FOOD CAPS - 200 caps	15.00	11.25		
	FIBER FOOD CAPS - 4 bottles of 200 caps	50.00	37.50		
	FIBER FOOD CAPS - 10 bottles of 200 caps	119.00	89.25		
00228	FIBER FOOD POWDER - 300 grams	15.00	11.25		
	FIBER FOOD POWDER- 4 bottles	50.00	37.50		
	FIBER FOOD POWDER- 10 bottles	119.00	89.25		
00718	FIBRINOGEN RESIST™ - 30 veg. caps	49.00	36.75		
	FIBRINOGEN RESIST™ - 4 bottles of 30 caps	176.00	132.00		
00873	FLAXSEED POWDER (HI-LIGNAN® NUTRI-FLAX®) - 16 oz powder	9.95	7.46		
01200	FLORASTOR® - 250 mg, 50 caps	55.15	41.36		
01312	FOLATE (OPTIMIZED) (L-METHYLFOLATE) - 100 veg. caps	28.00	21.00		
	FOLATE (OPTIMIZED) (L-METHYLFOLATE) - 4 bottles of 100 veg. caps	100.00	75.00		
00347	FOLIC ACID + B12 CAPSULES - 200 caps	10.50	7.88		
	FOLIC ACID + B12 CAPSULES - 4 bottles of 200 caps	38.00	28.50		
00300	FORSKOLIN - 10 mg, 60 caps	15.00	11.25		
	FORSKOLIN - 4 bottles of 60 caps	50.00	37.50		
00993	FUCOXANTHIN-SLIM™ - 90 softgels	44.00	33.00		
	FUCOXANTHIN-SLIM™ - 4 bottles of 90 softgels	156.00	117.00		
G					
00127	GABA POWDER - 100 grams	\$23.75	\$17.81		
	GABA POWDER - 4 bottles	90.00	67.50		
00559	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels	42.00	31.50		
	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 4 bottles of 60 softgels	148.00	111.00		
00759	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 60 softgels	32.00	24.00		
	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 4 bottles of 60 softgels	116.00	87.00		
00117	GELATIN CAPSULES - Set of 1000 empty caps size "00"	19.00	14.25		
	GELATIN CAPSULES - 4 Sets	72.00	54.00		
01301	GH PITUITARY SUPPORT DAY FORMULA - 120 vegetarian tabs	48.00	36.00		
	GH PITUITARY SUPPORT DAY FORMULA - 4 bottles of 120 veg. tabs	176.00	132.00		
01302	GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps	25.00	18.75		
	GH PITUITARY SUPPORT NIGHT FORMULA - 4 bottles of 120 veg. caps	90.00	67.50		
01228	GINGER FORCE - 60 softgels	29.95	22.46		
00778	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 caps	46.00	34.50		
	GINKGO BILOBA CERTIFIED EXTRACT™ - 2 bottles of 365 caps	87.00	65.25		
00504	GINKGO EXTRACT (SUPER)- 120 mg, 100 caps	29.00	21.75		
	GINKGO EXTRACT (SUPER)- 4 bottles of 100 caps	106.00	79.50		
01032	(PANAX RED) GINSENG - 60 veg. caps	29.99	22.49		
00756	GLA WITH SESAME LIGNANS (MEGA) - 60 softgels	19.50	14.63		
	GLA WITH SESAME LIGNANS (MEGA) - 4 bottles of 60 softgels	72.00	54.00		
00345	(L) GLUTAMINE CAPSULES - 500 mg, 100 caps	14.95	11.21		
	(L) GLUTAMINE CAPSULES - 4 bottles of 100 caps	54.00	40.50		
00141	(L)-GLUTAMINE POWDER - 100 grams	19.00	14.25		
	(L)-GLUTAMINE POWDER - 4 bottles	67.50	50.64		
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps	38.00	28.50		
	GLUCOSAMINE/CHONDROITIN CAPSULES - 4 bottles of 100 caps	128.00	96.00		
00512	GLUCOFIT™ - 100 softgels	28.00	21.00		
	GLUCOFIT™ - 4 bottles of 100 softgels	100.00	75.00		

* Due to license restrictions, this product is not for sale to wholesalers outside of the United States of America and Canada.

** Can only be sold in the United States.

† Member pricing not valid on this item.

SUB-TOTAL OF COLUMN 8

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.	Retail	Member Price	Qty	Total
G CONTINUED				
00113	GLUTATHIONE, C & CYSTEINE - 750 mg, 100 caps	\$18.00	\$13.50	
	GLUTATHIONE, C & CYSTEINE - 4 bottles of 100 caps	64.00	48.00	
00314	L-GLUTATHIONE (MEGA) - 250 mg, 60 caps	35.95	26.96	
	L-GLUTATHIONE (MEGA) - 4 bottles of 60 caps	129.44	97.08	
00795	GLYCINE CAPSULES - 1000 mg, 100 caps	12.00	9.00	
	GLYCINE CAPSULES - 4 bottles of 100 caps	43.20	32.40	
00128	GLYCINE POWDER - 300 grams	18.00	13.50	
	GLYCINE POWDER - 4 bottles	64.00	48.00	
01091	GRAPE EXTRACT w/RESVERATROL (WHOLE) - 60 veg. caps	36.00	27.00	
	GRAPE EXTRACT w/RESVERATROL (WHOLE) - 4 bottles of 60 veg. caps	136.00	102.00	
01411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-100 mg, 60 veg. caps	36.00	27.00	
	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-4 bottles of 60 veg. caps	136.00	102.00	
00953	GREEN TEA EXTRACT (MEGA) - lightly caffeinated - 100 veg. caps	28.00	21.00	
	GREEN TEA EXTRACT (MEGA) - 4 bottles of 100 veg. caps	106.00	79.50	
00954	GREEN TEA EXTRACT (MEGA) - decaffeinated - 100 veg. caps	28.00	21.00	
	GREEN TEA EXTRACT (MEGA) - 4 bottles of 100 veg. caps	106.00	79.50	
H				
01074	5 HTP - 100 mg, 60 caps	\$27.95	\$20.96	
00230	HCA - 90 caps	18.00	13.50	
	HCA - 4 bottles of 90 caps	62.00	46.50	
00800	HOMOCYSTEINE RESIST - 100 caps	24.00	18.00	
	HOMOCYSTEINE RESIST - 4 bottles of 100 caps	86.40	64.80	
00067	HOODIA GORDONII - 60 caps	14.00	10.50	
00627	HUPERZINE A W/NATURAL VITAMIN E - 50 mcg, 60 caps	27.95	20.96	
	HUPERZINE A W/NATURAL VITAMIN E - 4 bottles of 60 caps	96.00	72.00	
00661	HYDRODERM® - 1 oz bottle	79.95	59.96	
	HYDRODERM® - 2 - 1 oz bottles	130.66	98.00	
I				
01060	i26 HYPERIMMUNE EGG - 140 grams of powder	\$49.99	\$42.00	
01065	IDEAL BOWEL SUPPORT 299V - 30 veg. caps	21.95	16.46	
00955	IMMUNE PROTECT W/PARACTIN® - 30 veg. caps	29.50	22.13	
	IMMUNE PROTECT W/PARACTIN® - 4 bottles of 30 veg. caps	106.20	79.65	
01049	INNERPOWER™ - 555 grams of powder	42.00	31.50	
00155	INOSINE - 500 mg, 60 caps	22.95	17.21	
	INOSINE - 4 bottles of 60 caps	84.00	63.00	
00109	INOSITOL CAPSULES - 500 mg, 100 caps	14.99	11.24	
	INOSITOL CAPSULES - 4 bottles of 100 caps	55.16	41.37	
00410	INOSITOL CAPSULES - 1000 mg, 360 caps	48.00	36.00	
	INOSITOL CAPSULES - 4 bottles of 360 caps	175.00	131.25	
00108	INOSITOL POWDER - 100 grams	18.00	13.50	
	INOSITOL POWDER - 4 bottles	67.52	50.64	
01021	INTACT DIGEST™ - 8 fl oz	35.00	26.25	
	INTACT DIGEST™ - 4 - 8 fl oz bottles	132.00	99.00	
01292	INTEGRA-LEAN® IRVINGIA - 150 mg, 60 veg. caps	34.00	25.50	
	INTEGRA-LEAN® IRVINGIA - 4 bottles of 60 veg. caps	120.00	90.00	
01002	IODORAL® - 180 caps	50.00	37.50	
00563	IRON PROTEIN PLUS - 300 mg, 100 caps	24.00	18.00	
	IRON PROTEIN PLUS - 4 bottles of 100 caps	88.00	66.00	
01492	IRVINGIA W/PHASE 3™ - 120 veg. caps	64.00	48.00	
	CALORIE CONTROL COMPLEX (OPTIMIZED)			
	IRVINGIA W/PHASE 3™ - 4 bottles of 120 veg. caps	240.00	180.00	
	CALORIE CONTROL COMPLEX (OPTIMIZED)			

SUB-TOTAL OF COLUMN 9

No.	Retail	Member Price	Qty	Total
J, K				
00056	JARRO-DOPHILUS EPS™ - 60 veg. caps	\$19.95	\$14.96	
01224	K w/ADVANCED K2 COMPLEX (SUPER) - 90 softgels	26.00	19.50	
	K w/ADVANCED K2 COMPLEX (SUPER) - 4 bottles of 90 softgels	92.00	69.00	
01050	NKO KRILL OIL - 60 softgels	33.95	25.46	
00316	KYOLIC® GARLIC FORMULA 102 - 350 mg, 200 caps	23.95	17.96	
	KYOLIC® GARLIC FORMULA 102 - 4 bottles of 200 caps	82.00	61.50	
00214	KYOLIC® GARLIC FORMULA 105 - 200 caps	22.95	17.21	
	KYOLIC® GARLIC FORMULA 105 - 4 bottles of 200 caps	73.00	54.75	
00789	KYOLIC® RESERVE - 600 mg, 120 caps	24.75	18.56	
	KYOLIC® RESERVE - 4 bottles of 120 caps	85.80	64.36	
L				
00513	LACTOFERRIN (APOLACTOFERRIN) CAPS - 60 caps	\$40.00	\$30.00	
	LACTOFERRIN (APOLACTOFERRIN) CAPS - 4 bottles of 60 caps	144.00	108.00	
00017	LAVILIN UNDERARM DEODORANT - 12.5 grams of cream	15.00	11.25	
	LAVILIN UNDERARM DEODORANT - 4 jars of cream	55.00	41.25	
01003	LIFE EXTENSION CAT MIX - 100 grams of powder	15.00	11.25	
	LIFE EXTENSION CAT MIX - 4 bottles of powder	48.00	36.00	
00544	LIFE EXTENSION DOG MIX - 100 grams of powder	19.50	14.63	
	LIFE EXTENSION DOG MIX - 4 bottles of powder	64.00	48.00	
00010	LIFE EXTENSION HAIR CONDITIONER - 16 oz bottle	6.00	4.50	
	LIFE EXTENSION HAIR CONDITIONER - 4 bottles	18.00	13.50	
00020	LIFE EXTENSION LECITHIN GRANULES - 16 oz. jar	15.00	11.25	
	LIFE EXTENSION LECITHIN GRANULES - 4 jars	50.00	37.50	
00019	LIFE EXTENSION LECITHIN w/B5 AND BHA - 16 oz. jar	15.00	11.25	
	LIFE EXTENSION LECITHIN w/B5 AND BHA - 4 16 oz. 4 jars	50.00	37.50	
01538	LIFE EXTENSION MIX™ - 315 veg. tablets	98.00	73.50	
	LIFE EXTENSION MIX™ - 4 bottles of 315 veg. tablets	344.00	258.00	
	LIFE EXTENSION MIX™ - 10 bottles of 315 veg. tablets	695.00	521.25	
01555	LIFE EXTENSION MIX™ - 315 tablets	98.00	73.50	
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets	344.00	258.00	
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets	695.00	521.25	
01557	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 315 tablets	98.00	73.50	
	LIFE EXTENSION MIX™ w/EXTRA NIACIN - 4 bottles of 315 tablets	344.00	258.00	
	LIFE EXTENSION MIX™ w/EXTRA NIACIN - 10 bottles of 315 tablets	695.00	521.25	
01554	LIFE EXTENSION MIX™ - 490 caps	110.00	82.50	
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps	392.00	294.00	
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps	850.00	637.50	
01556	LIFE EXTENSION MIX™ POWDER - 14.81 oz	98.00	73.50	
	LIFE EXTENSION MIX™ POWDER - 4 bottles	344.00	258.00	
	LIFE EXTENSION MIX™ POWDER - 10 bottles	720.00	540.00	
01565	LIFE EXTENSION MIX™ - 315 tablets w/o copper	98.00	73.50	
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets w/o copper	344.00	258.00	
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets w/o copper	695.00	521.25	
01567	LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper	98.00	73.50	
	LIFE EXTENSION MIX™ w/EXTRA NIACIN 4 bottles of 315 tablets w/o copper	344.00	258.00	
	LIFE EXTENSION MIX™ W/EXTRA NIACIN 10 bottles of 315 tablets w/o copper	695.00	521.25	
01564	LIFE EXTENSION MIX™ - 490 caps w/o copper	110.00	82.50	
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps w/o copper	392.00	294.00	
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps w/o copper	850.00	637.50	
01566	LIFE EXTENSION MIX™ POWDER - 14.81 oz w/o copper	98.00	73.50	
	LIFE EXTENSION MIX™ POWDER - 4 bottles w/o copper	344.00	258.00	
	LIFE EXTENSION MIX™ POWDER - 10 bottles w/o copper	720.00	540.00	

SUB-TOTAL OF COLUMN 10

No.		Retail	Member Price	Qty	Total
01279	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 16 oz bottle	\$18.50	\$13.88		
	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 4 -16 oz bottle	68.00	51.00		
01501	LIFE EXTENSION ONE-PER-DAY - 60 veg. tablets	19.95	14.96		
	LIFE EXTENSION ONE-PER-DAY - 4 bottles of 60 veg. tablets	72.00	54.00		
00011	LIFE EXTENSION SHAMPOO - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION SHAMPOO - 4 bottles	19.00	14.25		
01278	LIFE EXTENSION TOOTHPASTE - MINT FLAVOR, 4 oz	9.50	7.13		
	LIFE EXTENSION TOOTHPASTE - MINT FLAVOR , 4-4 oz tubes	34.68	26.00		
01516	LIFE EXTENSION TWO-PER-DAY - 60 veg. tablets	9.95	7.46		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 60 veg. tablets	36.00	27.00		
01515	LIFE EXTENSION TWO-PER-DAY - 120 veg. tablets	18.95	14.21		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 120 veg. tablets	68.00	51.00		
00263	LIFE FLORA™ - 300 mg, 120 caps	20.50	15.38		
	LIFE FLORA™ - 4 bottles of 120 caps	75.00	56.25		
01314	LIFESHIELD® IMMUNITY™ - 60 veg. caps	39.95	29.96		
00939	5-LOXIN® - 75 mg, 100 veg. caps	19.50	14.63		
	5-LOXIN® - 4 bottles of 100 veg. caps	69.00	51.75		
01013	L-LYSINE CAPSULES - 620 mg, 100 caps	9.00	6.75		
	L-LYSINE CAPSULES - 4 bottles of 100 caps	32.00	24.00		
00129	L-LYSINE POWDER - 300 grams	16.00	12.00		
	L-LYSINE POWDER - 4 bottles	55.00	41.25		
01470	LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE - 120 veg. caps	28.00	21.00		
	LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE - 4 bottles of 120 veg. caps	100.00	75.00		
01017	LUSTRE™ - 90 tablets	17.50	13.13		
	LUSTRE™ - 4 bottles of 90 tablets	62.00	46.50		
00455	LYCOPENE EXTRACT (MEGA) - 15 mg, 90 softgels	35.00	26.25		
	LYCOPENE EXTRACT (MEGA) - 4 bottles of 90 softgels	120.00	90.00		
M					
01044	MAGNESIUM CAPS - 500 mg, 100 caps	\$9.50	\$7.13		
	MAGNESIUM CAPS - 4 bottles of 100 caps	32.00	24.00		
00502	MAGNESIUM CITRATE - 160 mg, 100 caps	9.00	6.75		
	MAGNESIUM CITRATE - 4 bottles of 100 caps	30.00	22.50		
00704	MAITAKE™ SX-FRACTION - 90 veg. tablets	49.95	37.46		
00547	MELATONIN - 300 mcg, 100 caps	5.75	4.31		
	MELATONIN - 4 bottles of 100 caps	20.00	15.00		
01083	MELATONIN CAPSULES - 500 mcg, 200 veg. caps	18.00	13.50		
	MELATONIN CAPSULES - 4 bottles of 200 veg. caps	64.00	48.00		
00329	MELATONIN CAPSULES - 1 mg, 60 caps	5.00	3.75		
	MELATONIN CAPSULES - 4 bottles of 60 caps	18.52	13.89		
00330	MELATONIN CAPSULES - 3 mg, 60 caps	8.00	6.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	27.52	20.64		
01086	MELATONIN CAPSULES - 3 mg, 60 time-release veg. caps	10.50	7.88		
	MELATONIN CAPSULES - 4 bottles of 60 time-release veg. caps	37.52	28.14		
00331	MELATONIN CAPSULES - 10 mg, 60 caps	28.00	21.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	96.00	72.00		
00332	MELATONIN LOZENGES - 3 mg, 60 dissolve-in-mouth lozenges	8.00	6.00		
	MELATONIN LOZENGES - 4 bottles of 60 dissolve-in-mouth lozenges	27.52	20.64		
01087	MELATONIN TIME RELEASE - 300 mcg, 100 veg. caps	6.25	4.69		
	MELATONIN TIME RELEASE - 4 bottles of 100 veg. caps	22.52	16.89		
01088	MELATONIN TIME RELEASE - 750 mcg, 60 veg. caps	5.75	4.31		
	MELATONIN TIME RELEASE - 4 bottles of 60 veg. caps	20.00	15.00		

SUB-TOTAL OF COLUMN 11

No.		Retail	Member Price	Qty	Total
01009	MEMORY UPGRADE™ - 600 grams powder	\$26.95	\$20.21		
01047	MENOPAUSE SOLUTIONS - 120 tablets	49.95	37.46		
00536	METHYLCOBALAMIN - 1 mg, 60 lozenges (vanilla)	9.95	7.46		
	METHYLCOBALAMIN - 4 bottles of 60 lozenges	32.00	24.00		
00537	METHYLCOBALAMIN - 5 mg, 60 lozenges (vanilla)	32.00	24.00		
	METHYLCOBALAMIN - 4 bottles of 60 lozenges	100.00	75.00		
	METHYLCOBALAMIN - 10 bottles of 60 lozenges	230.00	172.50		
00709	MIGRA-EEZE™ (BUTTERBUR) - 60 softgels	29.50	22.13		
	MIGRA-EEZE™ (BUTTERBUR) - 4 bottles of 60 softgels	105.32	79.00		
00702	MILK THISTLE (SILYMARIN) (OPTIMIZED) - 100 caps	42.00	31.50		
	MILK THISTLE (SILYMARIN) (OPTIMIZED) - 4 bottles of 100 caps	152.00	114.00		
00623	MINERAL FORMULA FOR MEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR MEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR MEN - 12 bottles of 100 caps	130.00	97.50		
00624	MINERAL FORMULA FOR WOMEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR WOMEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR WOMEN - 12 bottles of 100 caps	130.00	97.50		
01315	MIRAFORTE w/STANDARDIZED LIGNANS (SUPER) - 120 caps	62.00	46.50		
	MIRAFORTE w/STANDARDIZED LIGNANS (SUPER) - 4 bottles of 120 caps	224.00	168.00		
01569	MITOCHONDRIAL BASICS w/BIOPQQ™ - 30 caps	52.00	39.00		
	MITOCHONDRIAL BASICS w/BIOPQQ™ - 4 bottles of 30 caps	184.00	138.00		
01568	MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPQQ™ - 120 caps	94.00	70.50		
	MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPQQ™ - 4 bottles of 120 caps	336.00	252.00		
00803	MIST ORAL III w/COQ10 - 2 fl oz bottle	28.00	21.00		
	MIST ORAL III w/COQ10 - 4 bottles	101.32	75.99		
00065	MK-7 - 90 mcg, 60 softgels	28.00	21.00		
	MK-7 - 4 bottles of 60 softgels	100.00	75.00		
00451	MSM (METHYL-SULFONYL-METHANE) - 1000 mg, 100 caps	14.00	10.50		
	MSM (METHYL-SULFONYL-METHANE) - 4 bottles of 100 caps	47.80	35.85		

N

00215	N-ACETYL CYSTEINE - 600 mg, 60 caps	\$14.00	\$10.50		
	N-ACETYL CYSTEINE - 4 bottles of 60 caps	54.00	40.50		
00168	NAPCA W/ALOE VERA - 8 fl oz bottle	10.00	7.50		
	NAPCA W/ALOE VERA - 4 bottles	36.60	27.45		
00066	NATTOKINASE - 60 softgels	24.98	18.74		
00891	NATURAL APPETITE CONTROL - 90 softgels	28.00	21.00		
	NATURAL APPETITE CONTROL - 4 bottles of 90 softgels	100.80	75.60		
00984	NATURAL BP MANAGEMENT - 60 tablets	42.00	31.50		
	NATURAL BP MANAGEMENT - 4 bottles of 60 tablets	151.20	113.40		
00913	NATURAL ESOPHAGUARD - 10 softgels	19.95	14.96		
	NATURAL ESOPHAGUARD - 2 boxes of 10 softgels	38.00	28.50		
00712	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 60 caplets	38.00	28.50		
	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 4 bottles of 60 caplets	132.00	99.00		
01221	NATURAL FEMALE SUPPORT - 30 veg. caps	28.00	21.00		
	NATURAL FEMALE SUPPORT - 4 bottles of 30 veg. caps	96.00	72.00		
01471	NATURAL GLUCOSE ABSORPTION CONTROL - 60 veg. caps	39.00	29.25		
	NATURAL GLUCOSE ABSORPTION CONTROL - 4 bottles of 60 veg. caps	144.00	108.00		
00698	NATURAL RELIEF 1222™ - 2 oz tube	28.00	21.00		
	NATURAL RELIEF 1222™ - 4, 2 oz tubes	100.00	75.00		
01084	NATURAL SLEEP - 3 mg, 60 veg. caps	12.99	9.74		
	NATURAL SLEEP - 4 bottles of 60 veg. caps	40.00	30.00		

SUB-TOTAL OF COLUMN 12

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
N CONTINUED					
01085	NATURAL SLEEP MELATONIN - 5 mg, 60 veg. caps	\$18.00	\$13.50		
	NATURAL SLEEP MELATONIN - 4 bottles of 60 veg. caps	64.00	48.00		
00987	NATURAL STRESS RELIEF - 30 veg. caps	28.00	21.00		
	NATURAL STRESS RELIEF - 4 bottles of 30 veg. caps	96.00	72.00		
01076	NEW FACE SOLUTION - 1.7 oz bottle	54.00	40.50		
	NEW FACE SOLUTION - 4 bottles of 1.7 oz	196.00	147.00		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps	19.00	14.25		
	NO-FLUSH NIACIN - 4 bottles of 100 caps	68.00	51.00		
01035	NUTRIM - 170 grams powder	25.95	19.46		
00523	N-ZIMES™ - 270 caps	23.90	17.93		
	N-ZIMES™ - 4 bottles of 270 caps	88.00	66.00		
O					
00104	OCTACOSANOL - 8000 mcg, 60 caps	\$17.99	\$13.49		
	OCTACOSANOL - 4 bottles of 60 caps	62.96	47.22		
01483	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 60 softgels	18.00	13.50		
	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 4 bottles of 60 softgels	64.00	48.00		
01482	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 120 softgels	32.00	24.00		
	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 4 bottles of 120 softgels	112.00	84.00		
	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 10 bottles of 120 softgels	249.00	186.75		
01484	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) (ENTERIC COATED) - 120 softgels	34.00	25.50		
	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) (ENTERIC COATED) - 4 bottles of 120 softgels	124.00	93.00		
	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) (ENTERIC COATED) - 10 bottles of 120 softgels	280.00	210.00		
00717	ONLY TRACE MINERALS - 90 caps	15.00	11.25		
	ONLY TRACE MINERALS - 4 bottles of 90 caps	50.00	37.50		
00915	OPTIZINC® - 30 mg, 90 veg. caps	5.95	4.46		
	OPTIZINC® - 4 bottles of 90 veg. caps	20.00	15.00		
01070	ORGANIC TOTAL BODY CLEANSE™ - 14-day supply	34.99	26.24		
00043	L-ORNITHINE - 500 mg, 100 caps	24.95	18.71		
	L-ORNITHINE - 4 bottles of 100 caps	80.00	60.00		
P					
00107	PABA CAPS - 500 mg, 100 caps	\$13.99	\$10.49		
	PABA CAPS - 4 bottles of 100 caps	49.32	36.99		
00073	PANCREATIN - 500 mg, 50 caps	11.99	8.99		
	PANCREATIN - 4 bottles of 50 caps	43.96	32.97		
00923	PEAK ATP® WITH GLYCOCARN® - 60 tablets	59.00	44.25		
	PEAK ATP® WITH GLYCOCARN® - 4 bottles of 60 tablets	224.00	168.00		
00342	PECTA SOL-C® MODIFIED CITRUS PECTIN - 454 grams powder	99.95	74.96		
	PECTA SOL-C® MODIFIED CITRUS PECTIN - 4 jars	382.80	287.10		
01080	PECTA SOL-C® MODIFIED CITRUS PECTIN - 270 veg. caps	69.95	52.46		
00673	(WELLBETX) PGX SOLUBLE FIBER BLEND -180 caps	34.95	26.21		
00865	PHARMAGABA™ - 60 chewable tablets	29.95	22.46		
	PHARMAGABA™ - 4 bottles of 60 chewable tablets	108.00	81.00		
01320	PHOSCHOL® - 900 mg, 100 softgels	69.45	52.09		
00368	PHOSPHATIDYLSERINE CAPS - 100 mg, 100 caps	54.00	40.50		
	PHOSPHATIDYLSERINE CAPS - 4 bottles of 100 caps	192.00	144.00		
00614	PILL CUTTER/GRINDER	11.95	8.96		

SUB-TOTAL OF COLUMN 13

No.		Retail	Member Price	Qty	Total
00561	POLICOSANOL - 10 mg, 60 tablets	\$24.00	\$18.00		
	POLICOSANOL - 6 bottles of 60 tablets	108.00	81.00		
01423	(FULL-SPECTRUM) POMEGRANATE™ - 30 softgels	24.00	18.00		
	(FULL-SPECTRUM) POMEGRANATE™ - 4 bottles of 30 softgels	84.00	63.00		
00956	POMEGRANATE EXTRACT - 30 veg. caps	19.50	14.63		
	POMEGRANATE EXTRACT - 4 bottles of 30 veg. caps	70.20	52.64		
00957	POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid	25.95	19.46		
	POMEGRANATE JUICE CONCENTRATE - 4 bottles of 16 oz liquid	96.00	72.00		
00577	POTASSIUM IODIDE - 1 box, 14 tablets	6.95	5.21		
	POTASSIUM IODIDE - 4 boxes, 14 tablets	21.00	15.75		
01500	PQQ CAPS W/BIOPOQQ™ - 10 mg, 30 veg. caps	24.00	18.00		
	PQQ CAPS W/BIOPOQQ™ - 4 bottles of 30 veg. caps	88.00	66.00		
00302	PREGNENOLONE - 50 mg, 100 caps	24.00	18.00		
	PREGNENOLONE - 4 bottles of 100 caps	76.00	57.00		
00700	PREGNENOLONE - 100 mg, 100 caps	26.00	19.50		
	PREGNENOLONE - 4 bottles of 100 caps	90.00	67.50		
*01373	PRELOX® NATURAL SEX FOR MEN® - 60 tablets	50.00	37.50		
	PRELOX® NATURAL SEX FOR MEN® - 4 bottles of 60 tablets	180.00	135.00		
00571	PRIMAL DEFENSE® - 900 mg, 90 caplets	49.95	37.46		
	PRIMAL DEFENSE® - 4 bottles of 90 caplets	194.00	145.50		
01019	PRIMAL DEFENSE® - 180 caplets	78.95	59.21		
00525	PROBOOST THYMIC PROTEIN A™ - 4 mcg, 30 packets	72.00	54.00		
	PROBOOST THYMIC PROTEIN A™ - 4 boxes	280.00	210.00		
00869	PRO FEM CREAM - 2 fl oz pump, Progesterone Cream	32.00	24.00		
	PRO FEM CREAM - 4, 2 fl oz pumps, Progesterone Cream	116.00	87.00		
01020	PROGREENS® - 15 stick pack	22.50	16.88		
01072	PRO M INTERNAL DEODORIZER - 500 mg, 100 veg. caps	28.00	21.00		
	PRO M INTERNAL DEODORIZER - 4 bottles of 100 veg. caps	100.00	75.00		
*01495	PROSTATE FORMULA W/ 5-LOXIN® STAND. LIGNANS (ULTRA NAT) -60 softgels	38.00	28.50		
	PROSTATE FORMULA W/ 5-LOXIN® STAND. LIGNANS (ULTRA NAT) -4 bot of 60 softgels	140.00	105.00		
	PROSTATE FORMULA W/ 5-LOXIN® STAND. LIGNANS (ULTRA NAT) -12 bot of 60 softgels	384.00	288.00		
01092	(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (VANILLA) - 4 bot of powder	144.00	108.00		
01093	(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (CHOCOLATE) - 4 bot of powder	144.00	108.00		
01094	(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (NATURAL) - 4 bot of powder	144.00	108.00		
01095	(ENHANCED LIFE EXTENSION) PROTEIN (BERRY) - 1 kg of powder	38.00	28.50		
	(ENHANCED LIFE EXTENSION) PROTEIN (BERRY) - 4 bot of powder	144.00	108.00		
00290	(DESIGNER WHEY) PROTEIN - Vanilla 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Vanilla powder	154.00	115.50		
00282	(DESIGNER WHEY) PROTEIN - Chocolate 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Chocolate powder	154.00	115.50		
00283	(DESIGNER WHEY) PROTEIN - Natural 2 lbs of powder	42.49	31.87		
	(DESIGNER WHEY) PROTEIN - 4 bottles of Natural powder	154.00	115.50		
01056	PURE-GAR® - 200 caps	24.95	18.71		
	PURE-GAR® - 4 bottles of 200 caps	84.00	63.00		
01075	PURE PLANT PROTEIN - Natural Vanilla 450 grams	36.00	27.00		
	PURE PLANT PROTEIN - 4 jar powder	132.00	99.00		
01209	PUMPKIN SEED EXTRACT (WATER-SOLUBLE) - 60 veg. caps	20.00	15.00		
	PUMPKIN SEED EXTRACT (WATER-SOLUBLE) - 4 bottles 60 veg. caps	72.00	54.00		
01210	PUMPKIN SEED EXT W/SOY ISOFLAVONES (WATER-SOLUBLE) - 60 veg. caps	22.00	16.50		
	PUMPKIN SEED EXT W/SOY ISOFLAVONES (WATER-SOLUBLE) - 4 bottles 60 veg.	80.00	60.00		
01031	PYCNOGENOL® - 60 veg. caps	86.95	65.21		

* Product cannot be sold outside the USA.

SUB-TOTAL OF COLUMN 14

No.		Retail	Member Price	Qty	Total
P CONTINUED					
01217	PYRIDOXAL 5'-PHOSPHATE - 100 mg, 60 veg. caps	\$22.00	\$16.50		
	PYRIDOXAL 5'-PHOSPHATE - 4 bottles of 60 veg. caps	79.20	59.40		
Q, R					
01309	QUERCETIN (OPTIMIZED) - 250 mg, 60 veg. caps	\$18.00	\$13.50		
	QUERCETIN (OPTIMIZED) - 4 bottles of 60 veg. caps	68.00	51.00		
01030	RED YEAST RICE (Bluebonnet) - 600 mg, 60 veg. caps	16.95	12.71		
00979	RED YEAST RICE (Nature's Plus) - 600 mg, 60 veg. caps	23.20	17.40		
00060	RED YEAST RICE EXTENDED RELEASE (Nature's Plus) - 30 veg. tablets	20.95	15.71		
00605	REGIMINT® - 60 enteric-coated caps	19.95	14.96		
	REGIMINT® - 4 bottles of 60 caps	74.68	56.01		
00448	REJUVENEX® BODY LOTION - 6 oz tube	24.00	18.00		
	REJUVENEX® BODY LOTION - 4 tubes	79.20	59.40		
	REJUVENEX® BODY LOTION - 8 tubes	136.00	102.00		
00918	REJUVENEX® FACTOR - 1.7 oz Airless pump bottle	65.00	48.75		
	REJUVENEX® FACTOR - 2 bottles	120.00	90.00		
	REJUVENEX® FACTOR - 4 bottles	220.00	165.00		
	REJUVENEX® FACTOR - 8 bottles	399.28	299.46		
01220	REJUVENEX® (ULTRA) - 2 oz jar	52.00	39.00		
	REJUVENEX® (ULTRA) - 2 jars	96.00	72.00		
	REJUVENEX® (ULTRA) - 4 jars	176.00	132.00		
	REJUVENEX® (ULTRA) - 8 jars	319.44	239.38		
00676	REJUVENIGHT (DREAM CREAM) (ULTRA) - 2 oz jar	39.95	29.96		
	REJUVENIGHT (DREAM CREAM) (ULTRA) - 4 jars	144.00	108.00		
00706	REJUVENIGHT w/PROGESTERONE (ULTRA) - 2 oz jar	42.00	31.50		
	REJUVENIGHT w/PROGESTERONE (ULTRA) - 4 jars	152.00	114.00		
01413	RESVERATROL w/PTEROSTILBENE - 20 mg, 60 veg. caps	24.00	18.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	88.00	66.00		
01410	RESVERATROL w/PTEROSTILBENE - 100 mg, 60 veg. caps	36.00	27.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	128.00	96.00		
01430	RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps	46.00	34.50		
	RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 4 bottles of 60 veg. caps	165.32	124.00		
00889	RHODIOLA EXTRACT - 250 mg, 60 veg. caps	11.75	8.81		
	RHODIOLA EXTRACT - 4 bottles of 60 veg. caps	42.32	31.74		
00972	(D) RIBOSE POWDER - 150 grams	27.50	20.63		
	(D) RIBOSE POWDER - 4 jars	99.00	74.25		
01473	(D) RIBOSE CAPS - 100 veg. tabs	32.00	24.00		
	(D) RIBOSE CAPS - 4 bottles of 100 veg. tabs	112.00	84.00		
01208	R-LIPOIC ACID (SUPER) - 300 mg, 60 veg. caps	49.00	36.75		
	R-LIPOIC ACID (SUPER) - 4 bottles of 60 veg. caps	180.00	135.00		
00070	RNA CAPSULES - 500 mg, 100 caps	17.95	13.46		
	RNA CAPSULES - 4 bottles of 100 caps	64.64	48.48		
00917	ROSMARINIC ACID EXTRACT - 60 veg. caps	59.00	44.25		
	ROSMARINIC ACID EXTRACT - 4 bottles of 60 veg. caps	212.00	159.00		
S					
01082	SACCHAROMYCES BOULARDII + MOS - 30 veg. caps	\$9.95	\$7.46		
01067	SACCHAROMYCES BOULARDII + MOS - 90 veg. caps	21.95	16.46		
01432	SAFFRON w/SATIAREAL (OPTIMIZED) - 60 veg. caps	36.00	27.00		
	SAFFRON w/SATIAREAL (OPTIMIZED) - 4 bottles of 60 veg. caps	128.00	96.00		
*00573	SAMBU GUARD - 175 ml	17.49	13.99		
00358	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 20 enteric coated tablets	17.00	12.75		
	SAME (S-ADENOSYL-METHIONINE) - 8 boxes of 20 enteric coated tablets	120.00	90.00		

SUB-TOTAL OF COLUMN 15

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

No.		Retail	Member Price	Qty	Total
00453	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets	\$40.00	\$30.00		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 enteric coated tablets	140.00	105.00		
00557	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets	32.00	24.00		
	SAME (S-ADENOSYL-METHIONINE) - 6 boxes of 20 enteric coated tablets	150.00	112.50		
01055	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 50 tablets	72.00	54.00		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 tablets	264.00	198.00		
01043	SEA-IODINE™ - 1000 mcg, 60 veg. caps	8.00	6.00		
	SEA-IODINE™ - 4 bottles of 60 veg. caps	28.80	21.60		
00046	SELENIUM - 2 oz dropper bottle	9.45	7.09		
	SELENIUM - 4 bottles of 2 oz bottle	36.00	27.00		
00567	SE-METHYSELENOCYSTEINE - 200 mcg, 100 caps	12.00	9.00		
	SE-METHYSELENOCYSTEINE - 4 bottles of 100 caps	44.00	33.00		
00318	SERRAFLAZYME - 100 tablets	18.00	13.50		
	SERRAFLAZYME - 4 bottles of 100 tablets	64.00	48.00		
00284	SHARK LIVER OIL (NORWEGIAN) - 1000 mg, 30 softgels	18.00	13.50		
	SHARK LIVER OIL (NORWEGIAN) - 4 bottles of 30 softgels	64.00	48.00		
00184	SILYMARIN - 100 mg, 50 caps	9.25	6.94		
	SILYMARIN - 4 bottles of 50 caps	33.00	24.75		
01502	SKIN RESTORING CERAMIDES w/LIPOWHEAT™ - 30 liquid caps	25.00	18.75		
	SKIN RESTORING CERAMIDES w/LIPOWHEAT™ - 4 bottles of 30 liq. caps	92.00	69.00		
00961	SODZYME® w/GLISODIN® AND WOLFBERRY - 90 veg. caps	28.00	21.00		
	SODZYME® w/GLISODIN® AND WOLFBERRY - 4 bottles of 90 veg. caps	96.00	72.00		
00657	SOLARSHIELD SUNGLASSES - 1 pair smoke color	12.99	9.74		
	SOLARSHIELD SUNGLASSES - 2 pair smoke color	23.00	17.25		
01097	SOY EXTRACT (ULTRA) - 150 veg. caps	87.00	65.25		
	SOY EXTRACT (ULTRA) - 4 bottles of 150 veg. caps	312.00	234.00		
00286	SOY PROTEIN CONCENTRATE - 16 oz of powder	12.00	9.00		
	SOY PROTEIN CONCENTRATE - 4 bottles of powder	42.50	31.87		
01099	STABILIMUM® 200 - 30 caps	30.00	22.50		
00432	STEVIA EXTRACT - 100 packets, 1 gram each	9.95	7.46		
	STEVIA EXTRACT - 4 boxes of 100 packets	36.00	27.00		
00351	ST. JOHN'S WORT EXTRACT - 300 mg, 60 caps	10.98	8.24		
	ST. JOHN'S WORT EXTRACT - 4 bottles of 60 caps	40.00	30.00		
00327	ST. JOHN'S WORT EXTRACT (PLANETARY) - 600 mg, 60 tablets	16.75	12.56		
	ST. JOHN'S WORT EXTRACT (PLANETARY) - 4 bottles of 60 tablets	55.40	41.55		
01476	STRONTIUM - 750 mg, 90 veg. caps	20.00	15.00		
	STRONTIUM - 4 bottles of 90 veg. caps	72.00	54.00		
00971	SUN PROTECTION SPRAY w/BETA GLUCAN - SPF30 - 6 oz bottle	14.95	11.21		
	SUN PROTECTION SPRAY w/BETA GLUCAN - SPF30 - 4 bottles, 6 oz	54.00	40.50		
00747	SUNGLASSES (OVERXCAST POLARIZED) - gray color, large	27.00	20.25		
	SUNGLASSES (OVERXCAST POLARIZED) - 2 pairs, gray color	42.00	31.50		
00748	SUNGLASSES (OVERXCAST POLARIZED) - gray color, medium	27.00	20.25		
	SUNGLASSES (OVERXCAST POLARIZED) - 2 pairs, gray color	42.00	31.50		
00758	SUPER ABSORBABLE SOY ISOFLAVONES - 60 caps	28.00	21.00		
	SUPER ABSORBABLE SOY ISOFLAVONES - 4 bottles of 60 caps	100.00	75.00		
01408	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL 60 softgels	28.00	21.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL 4 bottles of 60 softgels	104.00	78.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL One-year supply	288.00	216.00		

** These products are not 25% off retail price.

SUB-TOTAL OF COLUMN 16

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
S CONTINUED					
01407	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 30 softgels	\$15.00	\$11.25		
	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 12 bottles of 30 softgels	144.00	108.00		
00578	SUPER SELENIUM COMPLEX - 200 mcg, 100 caps	12.00	9.00		
	SUPER SELENIUM COMPLEX - 4 bottles of 100 caps	40.00	30.00		
	SUPER SELENIUM COMPLEX - 12 bottles of 100 caps	108.00	81.00		
00674	SYTRINOL™ - 60 softgels	32.00	24.00		
	SYTRINOL™ - 4 bottles of 60 softgels	112.00	84.00		
T					
TAL•SHI™ COSMETICS • For information please call 1-800-544-4440 or visit www.lifeextension.com					
01062	TART CHERRY (FRUIT ADVANTAGE) - 600 mg, 60 caps	\$18.95	\$14.21		
00199	TAURINE CAPSULES - 1000 mg, 50 caps	8.95	6.71		
	TAURINE CAPSULES - 4 bottles of 50 caps	32.00	24.00		
00133	TAURINE POWDER - 300 grams, powder	20.00	15.00		
	TAURINE POWDER - 4 bottles of powder	67.52	50.64		
01304	THEAFLAVIN STANDARDIZED EXTRACT - 30 veg. caps	18.00	13.50		
	THEAFLAVIN STANDARDIZED EXTRACT - 4 bottles of 30 veg. caps	64.00	48.00		
00555	(L) THEANINE - 100 mg, 60 caps	24.00	18.00		
	(L) THEANINE - 4 bottles of 60 caps	82.00	61.50		
*01038	THERALAC - 30 caps	44.95	33.71		
00224	THYMIC IMMUNE FACTORS - 100 caps	18.00	13.50		
	THYMIC IMMUNE FACTORS - 4 bottles of 100 caps	56.00	42.00		
00668	THYROID FORMULA™ (METABOLIC ADVANTAGE) - 100 caps	21.95	16.46		
00349	TMG POWDER - 50 grams	14.00	10.50		
	TMG POWDER - 4 bottles	44.00	33.00		
00359	TMG TABLETS - 500 mg, 180 tablets	18.00	13.50		
	TMG TABLETS - 4 bottles of 180 tablets	62.00	46.50		
00366	TOCOTRIENOLS - 50 mg, 60 softgel caps	39.95	29.96		
	TOCOTRIENOLS - 4 bottles of 60 softgel caps	144.00	108.00		
00781	TOCOTRIENOLS WITH SESAME LIGNANS - 60 softgels	38.00	28.50		
	TOCOTRIENOLS WITH SESAME LIGNANS - 4 bottles of 60 softgels	144.00	108.00		
01400	TOCOTRIENOLS (SUPER-ABSORBABLE) - 60 softgels	30.00	22.50		
	TOCOTRIENOLS (SUPER-ABSORBABLE) - 4 bottles of 60 softgels	112.00	84.00		
01274	TOTAL SUN PROTECTION CREAM W/BETAGLUCANS & PHOTO-AGING RECOVERY COMPLEX - SPF 30, 4 oz Tube	28.00	21.00		
	TOTAL SUN PROTECTION CREAM W/BETAGLUCANS & PHOTO-AGING RECOVERY COMPLEX - 4-4 oz Tubes	100.80	75.60		
01468	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT - 60 veg. caps	24.00	18.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT - 4 bot 60 veg. caps	88.00	66.00		
01469	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT W/RESVERATROL - 60 veg. caps	32.00	24.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT W/RESVERATROL - 4 bottles	118.40	88.80		
01046	TRIPLE ACTION UNDER EYE REJUVENATOR - 0.5 oz pump	24.00	18.00		
	TRIPLE ACTION UNDER EYE REJUVENATOR - 4 boxes	88.00	66.00		
00866	TRYPTOPURE® L-TRYPTOPHAN - 500 mg, 90 veg. caps	38.00	28.50		
	TRYPTOPURE® L-TRYPTOPHAN - 4 bottles of 90 veg. caps	136.00	102.00		
01202	TRYPTOPURE® PLUS (OPTIMIZED) - 90 veg. caps	40.00	30.00		
	TRYPTOPURE® PLUS (OPTIMIZED) - 4 bottles of 90 veg. caps	144.00	108.00		
00326	L-TYROSINE TABLETS - 500 mg, 100 tablets	12.50	9.38		
	L-TYROSINE TABLETS - 4 bottles of 100 tablets	45.68	34.26		

SUB-TOTAL OF COLUMN 17

No.		Retail	Member Price	Qty	Total
U					
*00310	UDO'S CHOICE® - 17 oz liquid (omega fatty acids)	\$27.49	\$21.99		
*00311	UDO'S CHOICE® - 1000 mg, 180 caps	33.79	27.03		
*00322	UDO'S CHOICE® WHOLESOME FAST FOOD - 1 lb bottle	27.49	21.99		
01061	ULTIMATE FLORA ADVANCED IMMUNITY - 30 caps	29.99	22.49		
V					
00213	VANADYL SULFATE - 7.5 mg, 100 tablets	\$15.00	\$11.25		
	VANADYL SULFATE - 4 bottles of 100 tablets	50.00	37.50		
00252	VELVET DEER ANTLER - 250 mg, 30 caps	36.00	27.00		
	VELVET DEER ANTLER - 4 bottles of 30 caps	136.00	102.00		
00408	VENOTONE - 60 caps	18.95	14.21		
	VENOTONE - 4 bottles of 60 caps	64.00	48.00		
00427	VINPOCETINE - 5 mg, 100 tablets	18.00	13.50		
	VINPOCETINE - 4 bottles of 100 tablets	56.00	42.00		
01033	VISION OPTIMIZER - 90 caps	29.95	22.46		
01098	VITAL GREENS MIX - 319.5 grams of powder	48.00	36.00		
	VITAL GREENS MIX - 4 jars of powder	176.00	132.00		
01219	VITAMIN A NUTRISORB - 0.6 fl oz	27.00	20.25		
00091	VITAMIN B1 CAPS - 500 mg, 100 caps	16.99	12.74		
	VITAMIN B1 CAPS - 4 bottles of 100 caps	60.68	45.51		
00093	VITAMIN B2 CAPS - 100 mg, 100 caps	12.99	9.74		
	VITAMIN B2 CAPS - 4 bottles of 100 caps	47.52	35.64		
00096	VITAMIN B3 (NIACIN) - 1000 mg, 100 caps	12.75	9.56		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	48.00	36.00		
00372	VITAMIN B3 (NIACIN) - 500 mg, 100 caps	7.65	5.74		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	26.60	19.95		
00098	VITAMIN B5 CAPS - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	VITAMIN B5 CAPS - 4 bottles of 100 caps	37.52	28.14		
00556	VITAMIN B6 CAPS - 250 mg, 100 caps	12.50	9.38		
	VITAMIN B6 CAPS - 4 bottles of 100 caps	44.00	33.00		
00361	VITAMIN B12 TABLETS - 500 mcg, 100 dissolve-in-mouth tablets	8.75	6.56		
	VITAMIN B12 TABLETS - 4 bottles of 100 dissolve-in-mouth tablets	29.00	21.75		
00927	VITAMIN C WITH DIHYDROQUERCETIN - 1000 mg, 250 tablets	25.50	19.13		
	VITAMIN C WITH DIHYDROQUERCETIN - 4 bottles of 250 tablets	93.00	69.75		
00084	VITAMIN C (BUFFERED) POWDER - 454.6 grams	23.95	17.96		
	VITAMIN C (BUFFERED) POWDER - 4 bottles	88.00	66.00		
00864	VITAMIN D - 2000 IU, 1 fl oz	28.00	21.00		
	VITAMIN D - 4 bottles of 1 fl oz	100.00	75.00		
00251	VITAMIN D3 CAPS - 1000 IU, 250 caps	12.50	9.38		
	VITAMIN D3 CAPS - 4 bottles of 250 caps	45.00	33.75		
00713	VITAMIN D3 CAPS - 5000 IU, 60 caps	11.00	8.25		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	39.60	29.70		
01418	VITAMIN D3 CAPS - 7000 IU, 60 caps	14.00	10.50		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	50.40	37.80		
01372	VITAMIN D3 w/SEA-IODINE - 5000 IU, 60 veg. caps	14.00	10.50		
	VITAMIN D3 w/SEA-IODINE - 4 bottles of 60 veg. caps	50.00	37.50		
01472	VITAMINS D AND K w/SEA-IODINE™ - 60 veg. caps	24.00	18.00		
	VITAMINS D AND K w/SEA-IODINE™ - 4 bottles of 60 veg. caps	88.00	66.00		
00063	VITAMIN E (PURE NATURAL) - 400 IU, 100 caps	18.75	14.06		
	VITAMIN E (PURE NATURAL) - 4 bottles of 100 caps	69.00	51.75		
	VITAMIN E (PURE NATURAL) - 10 bottles of 100 caps	150.00	112.50		

* These products are not 25% off retail price.

** Due to license restrictions, this product is not for sale to Canada.

SUB-TOTAL OF COLUMN 18

To order online visit: www.lifeextension.com

No.		Retail	Member Price	Qty	Total
01225	VITAMIN K2 (LOW-DOSE) - 45 mcg, 90 softgels	\$18.00	\$13.50		
	VITAMIN K2 (LOW-DOSE) - 4 bottles of 90 softgels	64.00	48.00		
Z					
01585	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN AND C3G (SUPER) - 60 softgels	\$22.00	\$16.50		
	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN AND C3G (SUPER) - 4 bottles	79.20	59.40		
01586	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN AND C3G (SUPER) - 60 softgels	42.00	31.50		
	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN AND C3G (SUPER) - 4 bottles of 60 softgels	152.00	114.00		
00061	ZINC LOZENGES WITH VITAMIN C - 75 lozenges	9.50	7.13		
	ZINC LOZENGES WITH VITAMIN C - 4 bottles of 75 lozenges	27.00	20.25		
01051	ZYFLAMEND - 120 softgels	60.95	45.71		
01029	ZYFLAMEND EASYCAPS - 180 caps	31.95	23.96		

SUB-TOTAL OF COLUMN 19

GIVE THE GIFT of HEALTH, with a LIFE EXTENSION GIFT CARD!



GIVE THE LIFE-ENHANCING BENEFITS OF LIFE EXTENSION WITH A GIFT OF \$10, \$25, \$50 OR \$100
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LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS



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As a member of the Life Extension Foundation®, you have the opportunity to participate in a great scientific endeavor. We are the world's premier organization dedicated to stopping and reversing aging.

Our 30-year track record shows that we have been five to ten years ahead of conventional and alternative medicine in making new life-saving therapies available to our members.

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1. Call toll-free **1-800-544-4440**
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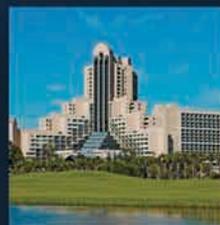
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Recent research suggests that the key factor in predicting heart health is gauging the amount of inflammation in the arteries. C-reactive protein is a blood marker used to assess inflammation and heart health.

Early data from a human clinical study conducted at Columbia University suggests that daily supplementation with Zyflamend promotes healthy levels of C-reactive protein.*

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Maintaining a healthy cardiovascular system is strongly linked to a healthy inflammation response – Zyflamend is the first choice for promoting heart health.*

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† According to 2010 SPINS Data

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Omega-3 Is Important for Cardiovascular Health

The body needs fatty acids to survive and is able to make all but two of them: linoleic acid (LA) in the omega-6 family, and alpha-linolenic acid (ALA) in the omega-3 family. These two fatty acids must be supplied by the diet and are therefore considered essential fatty acids (EFAs).

Omega-3 fatty acids, found in cold-water fish (and fish oil), perilla oil, and flaxseed oil, are essential elements of a healthy diet. While the polyunsaturated fats known as omega-6 fatty acids are essential to life, most Americans and citizens of other Western nations consume far too many omega-6 polyunsaturated fatty acids and not enough omega-3 polyunsaturated fatty acids. In fact, some Western diets consist of 20 parts of omega-6 to only one part of omega-3. For optimum health, the ratio of omega-6 to omega-3 fatty acids should be between 1:1 and 4:1.¹ The severe imbalance that occurs with most people contributes to the development of long-term health problems.

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Super Omega-3 from Life Extension® uses a patented EPA/DHA extraction process that results in a pure, stable, and easy-to-tolerate fish oil extract. While most fish oil is distilled to decrease contaminants such as mercury and PCBs, the Pure+™ fish oil used in Super Omega-3 is produced with a patented method that purifies the oil with a highly advanced distillation process to reduce pollutants to virtually undetectable levels. The result is an improved fish oil that exceeds the standards set by international rating agencies.

1. *Minerva Pediatr.* 2008 Apr;60(2):219-33

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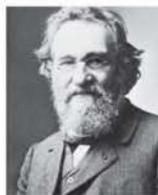
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References:

1. *J Ethnopharmacol.* 1999 Jul;66(1):11-7.
2. *Arch Dermatol Res.* 2005 May;296(11):514-21.
3. *J Med Food.* 2003;6(4):291-9.
4. *Carcinogenesis.* 2003 May;24(5):927-36.

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LifeExtension[®] Magazine

NO REAL HEALTHCARE COST CRISIS (Page 7)



Life Extension[®] has long warned that corrupt healthcare legislation will *bankrupt* the United States with *hyper-inflated* sick-care costs. Here we detail how commonsense changes to the law can avert this financial catastrophe.

HOW TO MANAGE YOUR ANXIETY SAFELY (Page 40)



According to the National Institute of Mental Health, **40 million** Americans suffer from some form of **anxiety disorder**. In an exclusive excerpt from his latest book, psychiatrist Henry Emmons outlines proven natural strategies to safely manage anxiety.

CAN BLUEBERRY EXTRACTS HALT METABOLIC SYNDROME? (Page 28)



Almost **25%** of the American population endures the deadly **metabolic syndrome**—the co-occurrence of **insulin resistance, hypertension, obesity, and abnormal blood lipid** profiles. Find out how blueberry extracts help halt this lethal pandemic.

HOW CURCUMIN PROTECTS AGAINST CANCER (Page 52)



As mainstream oncology misguidedly focuses on toxic, single-agent treatments, a wealth of compelling data puts **curcumin** at the forefront of *multimodal* cancer prevention.

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