

SEVERE QUALITY PROBLEMS AT BIG PHARMA

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LifeExtension®

The ULTIMATE Source For New Health And Medical Findings From Around The World

April 2011

What Europeans Are Doing to Improve Sleep!

**Accelerating
Age-*Reversal*
Research**

**New Amber Exfoliant
Restores Youthful
Skin Appearance**

**How Cancer Patients
Are Boosting
Immune Function**

PLUS-

**Immune Senescence Reversed in Aged Human Cells
Vitamin E Associated with Longer Life Span
Magnesium Reduces Diabetes Risk**



The better Curcumin

For Optimal Absorption



How Much Curcumin Are You Absorbing?

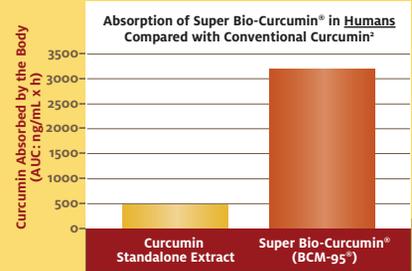


Chart 1. Super Bio-Curcumin® (BCM-95®) showed 6.9 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with conventional curcumin (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed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

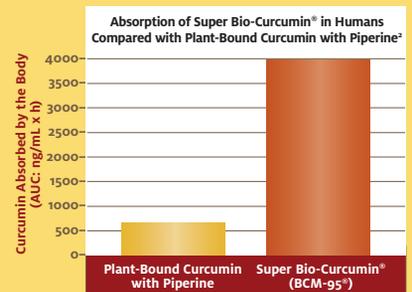


Chart 2. Super Bio-Curcumin® (BCM-95®) showed 6.3 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with plant-bound curcumin with piperine (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin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

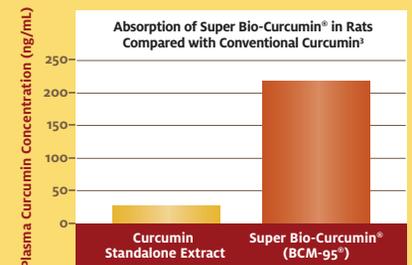


Chart 3. Bioavailability in rats fed with BCM-95® is 7.8 times higher than conventional curcumin.

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.

Contains rice.

References:

1. *Spice India*. 2006 Sept;19(9):11-5.
2. *Ind J Pharm Sci*. 2008 Jul-Aug;445-9.
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
or visit www.LifeExtension.com**

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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.

REPORTS



34 HOW INSOMNIA DESTROYS SKIN HEALTH

While a *single* night of poor sleep can make you look a decade older, chronic insomnia's long-term impact is more than cosmetic. It gradually destroys skin tissue and may cause dermatitis, eczema, and other skin conditions. The good news is there are clinically validated natural interventions that both combat insomnia and restore skin health.



46 NEW AMBER EXFOLIANT REJUVENATES AGING SKIN

The dermatological procedure known as **microdermabrasion** ranks among the most popular ways to restore aging skin in the US today. Unfortunately, it's both expensive *and* poses some health risks. A novel exfoliant that harnesses the unique properties of **amber crystals** has been identified as an effective, affordable, safe alternative.



56 CRIMINAL QUALITY-CONTROL LAPSES AT BIG PHARMA

Egregious manufacturing errors by the world's largest pharmaceutical manufacturers are being routinely uncovered, yet the public remains largely unaware. Consumers meanwhile are being misled by baseless attacks against **compounding pharmacies**. Discover the shocking truth about serious quality control lapses at **Big Pharma**.



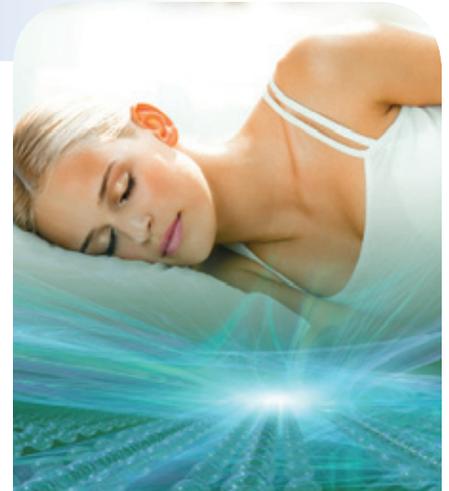
66 IMMUNE SENESCENCE PARTIALLY REVERSED IN HUMAN CELLS

In a landmark study, University of California researchers *reversed* functional declines in immune cells taken from humans **65 years and older** using an analog of the infamous drug **thalidomide**. Find out how very low doses of this drug may someday *reverse* the decline in immune function that accompanies normal aging.



76 HOW SOME CANCER PATIENTS ARE BOOSTING IMMUNE FUNCTION

The aging of the immune system—termed *immunosenescence*—increases risk of cancer and infectious illnesses like pneumonia. Cancer patients are especially hard hit with immune suppression caused from the various toxic therapies. Find out what some cancer patients are using to shore up their compromised immune systems.



26 ON THE COVER

WHAT EUROPEANS ARE USING TO RESTORE YOUTHFUL SLEEP

Nearly **one-third** of American adults struggle with **chronic insomnia**, yet *few* are aware of the magnitude by which it increases risk for serious disease. Find out how a proprietary nutritional compound widely used in **Europe** can safely induce relaxation and restful sleep patterns.

DEPARTMENTS



7 ACCELERATING AGE REVERSAL RESEARCH

Most experts will tell you it's *impossible* to restore youthful health in elderly individuals with *advanced* degenerative diseases. Yet a team of Harvard-affiliated scientists has shown it's possible to do this in an age-accelerated animal model. Here we describe several new projects the **Life Extension Foundation®** has launched to **accelerate** age-reversal research.

19 IN THE NEWS

Vitamin E linked to longevity; magnesium lowers diabetes risk; omega-3 essential for healthy mood; and much more.

89 WELLNESS PROFILE

Looking to get in shape? Considering a personal trainer? Then expert trainer Lorenzo Price has a simple answer for you: "Do it." In this illuminating profile, Price explores the pitfalls facing anyone looking to

get fit—and lays out his simple, direct, no-nonsense approach to helping anyone make their specific fitness goals a reality.



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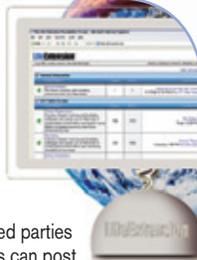
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THE ULTIMATE TWO-PER-DAY TABLET

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

Contains soybeans, rice, and corn.

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

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. The 200 IU of natural vitamin E contained in Two-Per-Day thus provides about **7 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.)

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

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Rock Solid BONES

Feeble bones severely hamper quality of life and put aging humans at risk for injury due to possible breaks or fractures. While most **Life Extension**® members take certain supplements to address this issue, we have combined critical **bone boosting** nutrients into one superior calcium formula called **Bone Restore**.

Bone Restore contains a broad spectrum of nourishment to support bone health. The formula includes highly absorbable forms of *bone fortifying calcium* and a potent, *bioavailable form of boron*, along with **vitamin D3, magnesium, zinc, manganese, and silicon**.

Bone Restore comes in fast-release capsules, making the minerals and other nutrients immediately available for absorption.

The retail price for 150 capsules of **Bone Restore** is \$22.50. If a member buys four bottles, the price is reduced to just **\$14.63** per bottle.

**To order Bone Restore,
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Contains corn.

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Item #00811

Just five capsules of Bone Restore provide:

Highly-Absorbable Calcium (from dicalcium malate, calcium glycinate chelate, and fructoborate)	1,200 mg
Vitamin D3	1,000 IU
Magnesium	340 mg
Boron (calcium fructoborate as patented FruiteX B® OsteoBoron®)	3 mg
Zinc	2 mg
Manganese	1 mg
Silicon	5 mg

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.

What We Are Doing To Reverse Your Biological Age



BY WILLIAM FALOON



Just imagine making it to age **80**, but you have not taken care of yourself. You thus suffer from *severe degenerative disorders* and have only a short time left to live.

Instead of letting you die, a pioneering doctor implants a compound that lengthens the **telomeres** in your cells. Within 30 days, there is a systemic **reversal** of your age-related pathologies. Not only are you functioning like a much younger person, but you're inquiring about birth control as your **sexuality** and **fertility** has also been restored.

With your **telomeres lengthened**, you now can expect to live longer in better health, with the wisdom to avoid the bad habits that caused you to degenerate in the past.

Most experts would argue that this is not possible. Yet a breakthrough discovery published in the **November 28, 2010**, online edition of the scientific journal *Nature* provides evidence that **age reversal** may become a reality.¹

This study was conducted using telomerase-deficient mice with artificially shortened life spans. The purpose was to see if the consequences of **accelerated aging** could be **reversed** in animals suffering from advanced degenerative pathologies.

AS WE SEE IT

The Breakthrough Findings

Telomeres are small units of DNA at the ends of our chromosomes. They are often compared to the plastic tips at the ends of shoelaces. As long as these tips (telomeres) remain intact, they keep the chromosomes from fraying and the genes inside from unraveling.

As our cells divide normally, or in response to poor lifestyle choices, telomeres progressively *shorten* until cells become dysfunctional or die.² When this happens, we grow older, become afflicted with the diseases of aging, and eventually die.

This same degenerative effect occurs in our **stem cells** with aging, which makes them progressively unable to create healthy new cells.³

There is evidence that **fish oil**,⁴ **vitamin D**,⁵ **carnosine**,⁶⁻⁸ **multi-vitamins**,⁹ and **healthy lifestyle choices**¹⁰ may slow the rate of telomere shortening. This helps explain why people who take care of themselves and use the proper supplements enjoy such profound health benefits.^{2,11,12}

What had not been proven, until now, is what happens if telomere length is substantially restored in already severely degenerated aged organisms.¹

In the *Nature* study, prematurely aged mice developed degenerative problems such as shrinkage of organs, inability to produce sperm, and failure of their brains to produce new neurons or to maintain the structural integrity of the myelin sheath that protects existing neurons.¹

As these degenerated mice neared death, researchers induced the re-activation of the enzyme **telomerase**. In response to telomerase re-activation, the **telomeres** at the end of their chromosomes **lengthened**.¹

After only 30 days, there was a **reversal** of the degenerative changes in **every** system the researchers tested. The brains of the treated mice not only started growing new neurons, but began to thicken the protective myelin sheath surrounding existing neurons. As one of the researchers was quoted, they were able to “**reverse neurodegeneration**.”¹

The treated mice produced new viable sperm, their spleen atrophy and intestinal damage were reversed, and even their sense of smell was restored (indicating restored olfactory function in their brains).¹

These mice initially were on the verge of dying, but went on to live a typical life span that was longer and healthier than could ever have been imagined considering the degenerative condition they were in at the beginning of the study. In humans, this would be like restoring the health and vigor of a sickly 80-year-old to that of a young adult!

Circumventing the Harsh Realities of Aging

In the *Nature* study, DNA was damaged and could no longer emit signals to maintain cellular function or structure. Repair mechanisms collapsed, stem cells were compromised, and marked tissue atrophy occurred (such as brain shrinkage) along with functional impairment of organ systems.¹



The significance of the *Nature* study is that it tested the effects of **telomere lengthening** in an animal model analogous in many ways to disabled elderly humans. (There were also differences in this mouse model compared to aged humans.)

It is known from human cell culture studies that restoring telomere length results in unlimited cell division potential.¹³⁻¹⁵ What has not yet been demonstrated is the effect of **telomere lengthening** in normally aged animals with **severe tissue degeneration**.

In this landmark study by Harvard-affiliated researchers, aging-accelerated mice whose telomeres were *lengthened* demonstrated rapid **reversal** of degenerative pathologies. While this is not the same as normally aged animals, it is an unprecedented demonstration of systemic **age-reversal** in a whole animal (*in vivo*) model. In this study, the aged mice with lengthened telomeres displayed new brain cell growth, restored sexual function and fertility, regeneration in every tissue examined, and a dramatically **longer life span**.¹

The authors of the *Nature* study summarized their results by stating:

“In conclusion, this unprecedented reversal of age-related decline in the central nervous system and other organs vital to adult mammalian health justify exploration of telomere rejuvenation strategies for age-associated diseases, particularly those driven by accumulating genotoxic stress.”¹

There are scientific advances that forever alter the course of human history. This may be one of these advances. As you will read next, **Life Extension**® is not



going to stand still and rely on others to carry forth this critically important rejuvenation research.

Age Reversal Can No Longer Be Ridiculed

Since the inception of the **Life Extension Foundation** four decades ago, we have endured harsh criticism from mainstream media and persecution by government agencies over our unwavering prediction that it will someday be possible to make older people young again.

Just last year, research we funded succeeded for the first time in **reversing** the aging of human cells in the laboratory—including **restoring telomere length** in some instances. The scientists transported aged human cells back in time to their original embryonic state, enabling them to differentiate into any cell the body might need to self-regenerate. This age-reversal study we funded was published in the peer-reviewed journal *Regenerative Medicine*.¹⁶

The latest study published in *Nature* demonstrates that it is possible to take mammals in a severely degenerated condition and **systemically reverse** aging pathologies using only one mechanism, i.e. **telomere lengthening**.

Life Extension Provides \$2 Million for New Age-Reversal Project

Based on our analysis of the current state of the art, we believe there are more effective methods to *restore* telomere length and *reverse* aging processes.

In **December 2010**, the **Life Extension Foundation** provided **\$2 million** in funding to a company called **ReCyte Therapeutics** (a subsidiary of BioTime, Inc.) for a new series of studies.¹⁷ The first will be on a group of mice that will utilize several cell rejuvenation mechanisms (including **telomere lengthening**) in a real-world model of aging.

The initial goal of this research is to rejuvenate the **vascular systems** of these mice in a way that protects them against **heart attack** and **stroke**. The research will also be aimed at restoring youthful bone marrow function to reverse **immune senescence**, thus conferring protection against **cancer**, **infectious disease**, and **autoimmune disorders**.¹⁸⁻²⁴

If these age-reversing effects can be documented in this mouse model and other biological systems, our research funding will then be used to attempt to develop authentic rejuvenation therapies in **humans**.

AS WE SEE IT

Seeking to Vastly Accelerate Aging Research

We live in a fascinating era. Throughout history there were no validated methods to slow human aging, let alone *reverse* it. Today, scientists are meticulously investigating methods to enable our aging bodies to grow younger. If they succeed, then we might be the last generation to succumb to aging and the horrific diseases that accompany it.

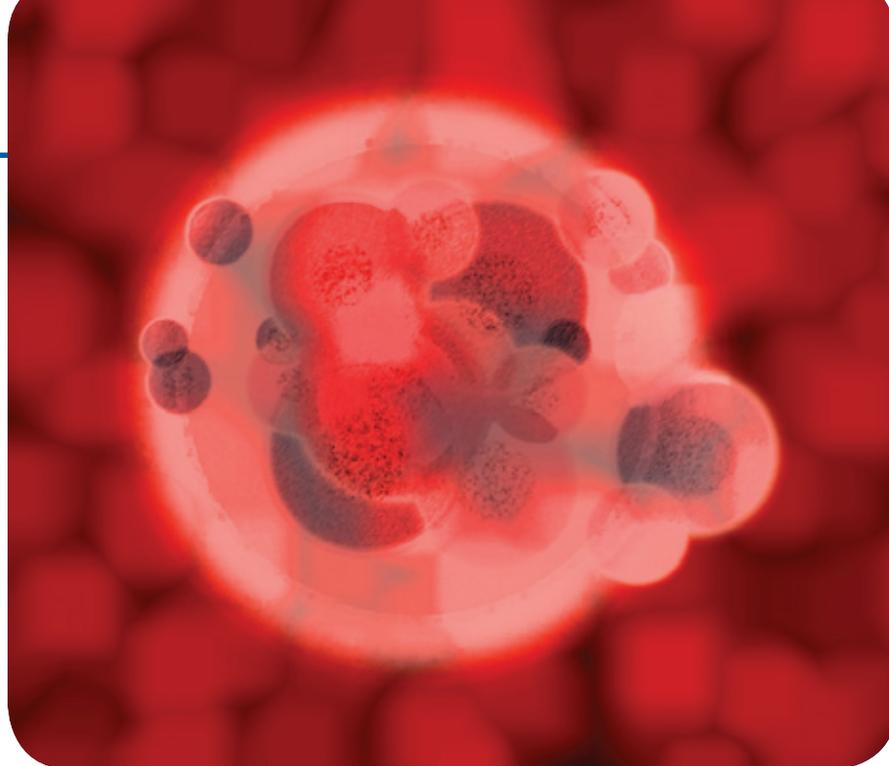
Long before the *Nature* study was published on November 28, 2010, I brought up a concept while meeting with scientists at a medical conference in **December 2008**.²⁵

Everyone acknowledged that potential advances might enable us to *reverse* the aging process we are all suffering. The problem is that no coordinated plan existed amongst the various scientific disciplines to collectively *harness* this technology into a near-term reality.

I proposed that we emulate what the United States did during World War II to rapidly develop the atomic bomb. I reasoned that if we instill a sense of confidence and urgency, we can collectively implement a “**Manhattan Project**” aimed at finding ways to reverse the festering aging process.

Several volunteers followed up on my suggestion and put together a “**Longevity Summit**” that consisted of some of the world’s top anti-aging researchers.

This longevity summit titled **The Manhattan Beach Project** was held **November 13–15, 2009**, in Manhattan Beach, CA.²⁶ The expenses were high because we had to fly gerontology experts in from around the world and cover hotel fees and video recording. The **Life Extension Foundation** funded the entire cost, which amounted to around **\$60,000**.



The first two days of this summit featured presentations by researchers who revealed their scientific roadmap for initiating and achieving *age reversal*. Some of these scientists had been quietly developing their technologies for many years.

The last day was a roundtable discussion among the wealthy attendees, the scientists, and some very creative minds. The purpose of this brainstorm session was to develop plans to fund these anti-aging research initiatives that our lives so heavily depend on.

The following consensus was reached:

1. In order to provide sufficient near-term funding to the most promising anti-aging research projects, about **\$100 million** will need to be raised beyond what is already being spent by the **Life Extension Foundation** and wealthy individuals who are currently giving money to gerontology scientists.
2. There are enough interested individuals today who are cumulatively able to provide this level of funding with moderate personal investments.

3. A company should be formed to not only raise and allocate these funds, but to also raise public awareness that a credible effort is being made to gain control over human aging.

A New “Age-Reversal” Initiative

The first step in implementing the **Manhattan Beach Project** was to assemble a knowledgeable and experienced Board of Directors to assure that the new company would be competently managed.

The next challenge was lining up the initial seed financing to get this company off the ground. Initially, \$2 million was raised, of which the **Life Extension Foundation** provided \$500,000.

The primary motivation for people to be involved with this company is that the research it supports could lead to breakthroughs in the control of human aging that could enable them to live much longer.

What I hope will be different with this company than any other are the *expectations* of these people. While there is a chance that the development of patented

anti-aging therapies could yield considerable profits, that was not the main reason we thought individuals might participate.

From the perspective of most Life Extension members, the development of validated methods that would enable humans to **grow biologically younger** is far more valuable than all the money in the world.

The company is set up to assist, both financially and technologically, companies that are engaged in research that may lead to the control of human aging.

Not all of these age-reversal initiatives will pan out. But if just one led to the development of a validated method to **reverse** the course of aging, then every participant (and mankind itself) would benefit.

Age Reversal Was Not Thought Possible

When *Life Extension* was founded, most people did not believe that reversing human aging could ever happen.

We proved them wrong last year by showing that at least at the cellular level, it is possible to re-program genes to prompt human cells to go back in time. This discovery was announced in the **June 2010** issue of *Life Extension Magazine*.²⁷

If one looks at the rapid technology advances we enjoy today, the probability of conquering aging can be easily analogized. Just think of the progress that has been made in other fields:

- From counting on fingers to supercomputers.
- Riding on horse and buggies to flying on jet planes.
- Waiting for the pony express to instant email.
- Stage plays to satellite TV.

Stair-Climbing Towards Biological Immortality

With each biological discovery, the human species climbs one step further toward gaining complete control over its own life processes.

While recorded human history goes back about 10,000 years, the vast majority of scientific breakthroughs have only occurred over the past 100 years. For instance, it was not until **1953** that James Watson and Francis Crick identified the structure of DNA (for which they later won a Nobel Prize).

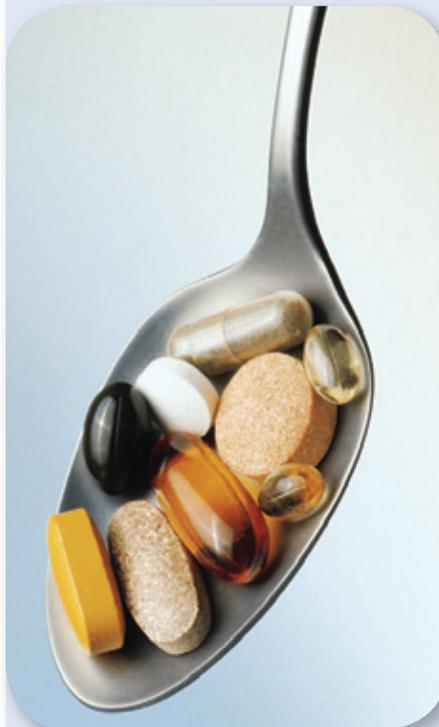
Prior to 1953, it would have been difficult to conceive that doctors might one day control human cellular processes as easily as computer operating systems are now engineered. Of course, back then, no one thought that computers would have ever advanced as far as they have already.

While it took 10,000 years for humans to figure out the structure of DNA (in 1953), it only required a little over 50 years to map out the entire human genome! Genes are the cell's "operating system," enabling young healthy cells to function flawlessly. Gene expression is unfavorably altered as we age, which is what ultimately causes us to degenerate and eventually die.

Research funded by **Life Extension** and others has identified specific genes that are adversely expressed as cells grow old. Once scientists perfect methods to control gene expression, we believe it will be possible to "engineer" DNA so that our cells will be biologically immortal and completely resistant to cancer. The reason we take supplements like **vitamin D**²⁸⁻³¹ and **resveratrol**³²⁻³⁴ is the favorable effect on gene expression these nutrients induce.

So from 1953, we have gone from uncovering the basic structure of DNA to developing sophisticated DNA gene expression assays. We are now at a stage of exerting partial control over some of the genes that cause us to age.

Based on this rapid progress, more "stairs have been climbed" in the scientific discipline of cellular engineering over the past 58 years than what mankind accomplished in the prior 10,000 years. It is this **velocity** of advancement that is enabling renowned scientists to predict that biological immortality is not only a possibility, but one that could occur in the lifetimes of some of those reading this article now!



AS WE SEE IT

One reason we are confident that age reversal is possible in our lifetime is the *law of accelerating returns*, which means that as scientists reach higher technological milestones, the accumulated knowledge base can be used to rapidly move up the scientific ladder.

At the **Manhattan Beach Project** summit in **November 2009**, a number of scenarios for slowing or reversing aging were presented by eminent scientific authorities. The consensus amongst the participants was that it may be possible to cure aging in our lifetime. This prediction was made before the landmark aging-reversal study was published in *Nature* just one year later (in **November 2010**).

We reasoned that if we could move up the next big anti-aging breakthrough by even a few years, this will mean the difference between life and death to many of those reading this article. That is why we view this matter with such a sense of urgency.

Where We Stand Today

The challenge we face is turning around public opinion to make **aging research** the number one priority. We need to overcome the **denial** about personal extinction that plagues the vast majority of the population. Once this is accomplished, I am certain the collective efforts of the scientific community will deal with aging as efficiently as hand-held computers function today.

Life Extension is currently evaluating several programs aimed at substantially *increasing* funding to scientists involved in **age-reversal** research. Your support through membership renewals and product purchases enables us to finance

ongoing scientific projects while laying the groundwork for exponential expansion of this research in the not-too-distant future.

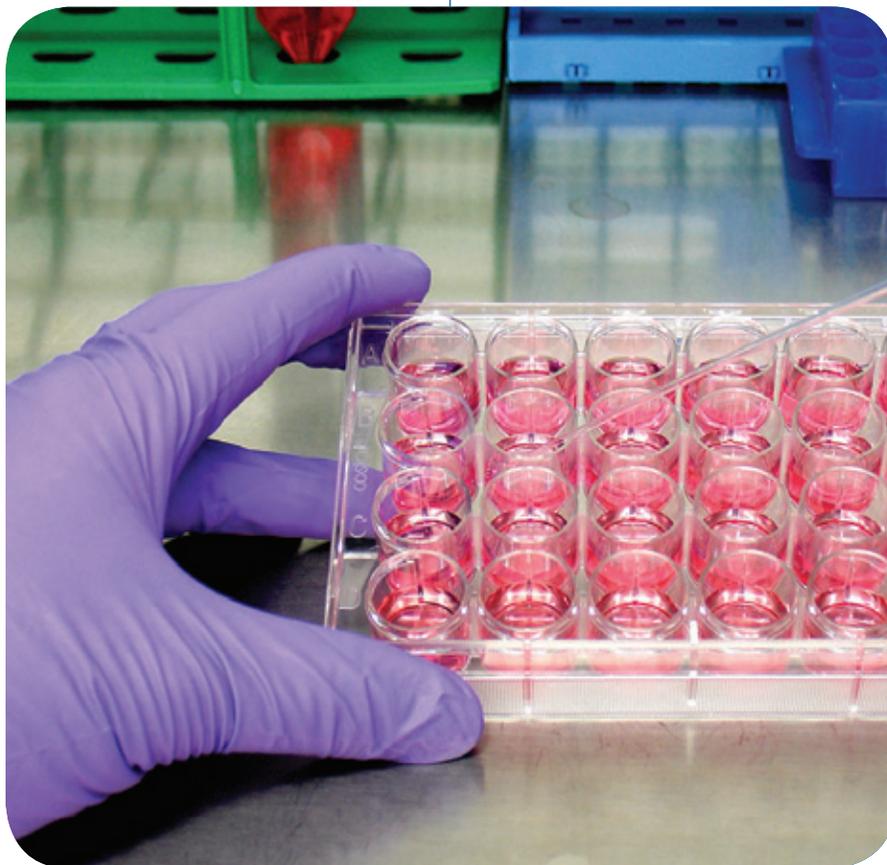
For longer life,



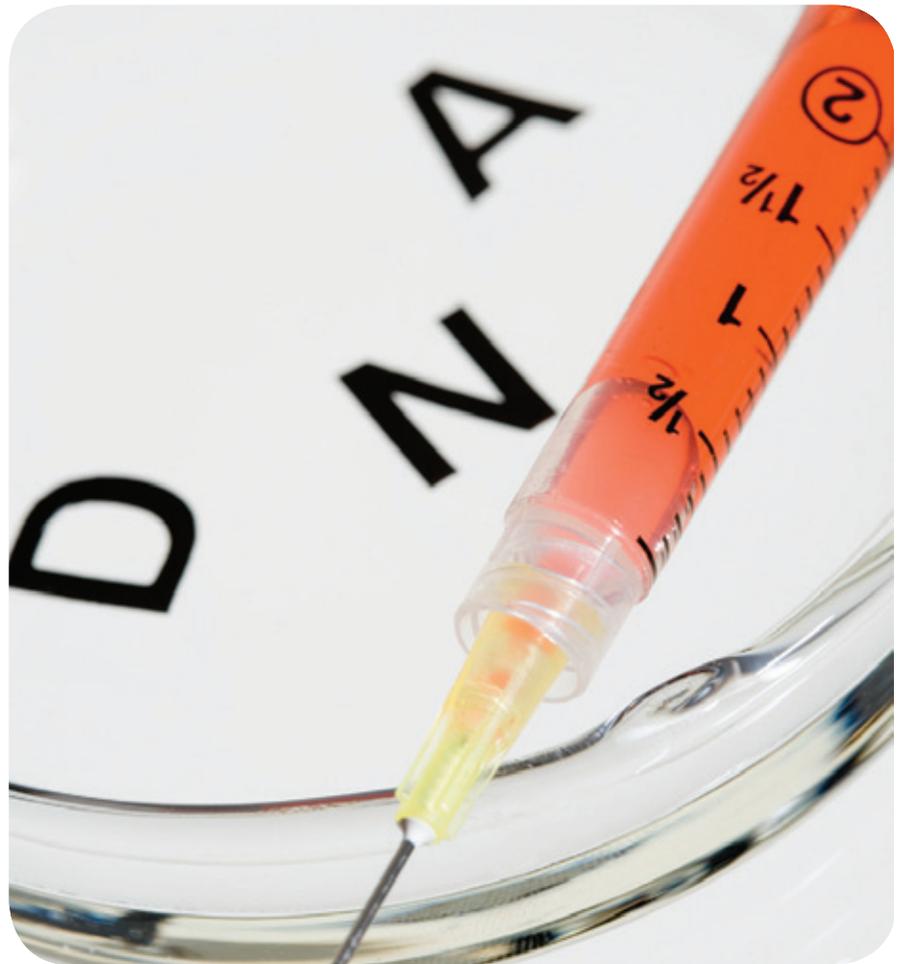
William Faloon

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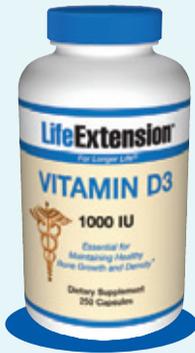
Which VITAMIN D is Right for You?



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

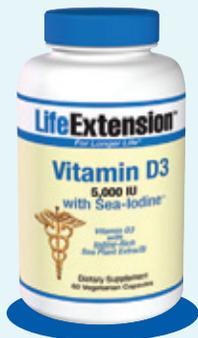
Retail: \$12.50

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

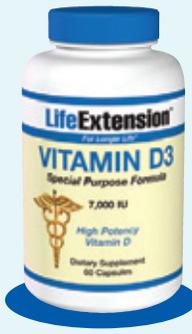
Retail: \$11

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.

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**.

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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.

PURE, HEART HEALTHY Super Omega-3 EPA/DHA



Fish Oil Blend with Sesame Lignans and a MORE Concentrated Olive Fruit Extract

A Comprehensive Fatty Acid Formula

There's no debating the power of omega-3 fatty acids. From support for heart health and brain function to help with inflammation, their broad-spectrum benefits have been firmly established in a wealth of studies.¹⁻⁹

To ensure the purest, most stable, easy-to-tolerate fish oil supplement, Life Extension® SUPER OMEGA-3 EPA/DHA is *molecularly distilled*. This patented process ensures any pollutants are reduced to virtually undetectable levels. The result? Our fish oil enjoys a **5-star rating for purity, quality, and concentration** from the **International Fish Oil Standards** program (IFOS)—the highest possible rating from the world's *premiere* testing laboratory.

Sesame Lignans and Standardized Olive Fruit Extract for Enhanced Benefits

Fish oils (and other fatty acids) have a tendency to oxidize, rendering them nutritionally inferior. Scientific studies show that when added to fish oil, *sesame lignans* safeguard against oxidation and direct fatty acids toward pathways that help with inflammatory reactions.¹⁰

To further emulate the benefits of a **Mediterranean diet**, Super Omega-3 delivers standardized, high-potency *olive fruit extract*. Research shows that when combined with olive oil, fish oil supplements help with inflammation better than fish oil alone.¹¹

Olive also contains the compounds *hydroxytyrosol*, *tyrosol*, and *oleuropein*. Together these nutrients counter the action of free radicals, delay aging in specialized skin cells, prevent undesirable LDL oxidation, and help maintain normal platelet activation.¹²⁻¹⁵

Super Omega-3 supplies the equivalent content of **6 ounces of extra virgin olive oil**. Take two softgels twice daily with meals.

Item #01482

Item #01484

A bottle containing 120 softgels of Super Omega-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract retails for \$32. If a member buys four bottles, the price is reduced to just **\$21** per bottle. If **10 bottles** are purchased, the cost is just **\$18.68** per bottle. Item #0148

Just four softgels of SUPER OMEGA-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract provide:

EPA Pure+™ Extract (eicosapentaenoic acid)	1400 mg
DHA Pure+™ Extract (docosahexaenoic acid)	1000 mg
Olive Fruit Extract [std. to 6.5% polyphenols (39 mg), 1.73% hydroxytyrosol/tyrosol (10.4 mg), 0.5% verbascoside/oleuropein (3 mg)]	600 mg
Sesame Seed Lignan Extract	20 mg

For those with sensitive stomachs, Super Omega-3 is also available with **enteric coating** and retails for **\$34**. If a member buys four bottles, the price is reduced to **\$23.25** per bottle. If **10 bottles** are purchased, the cost is just **\$21** per bottle. Item #01484

To order the most advanced fish oil supplement, **Super Omega-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract** (with or without enteric coating), call **1-800-544-4440** or visit **www.LifeExtension.com**

CAUTION: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product. Contains fish (anchovy, mackerel), soybeans, and sesame.

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Supportive but not conclusive evidence shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease.

IFOS™ certification mark is a registered trademark of Nutrasource Diagnostics, Inc. These products have been tested to the quality and purity standards of the IFOS™ program conducted at Nutrasource Diagnostics, Inc.



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

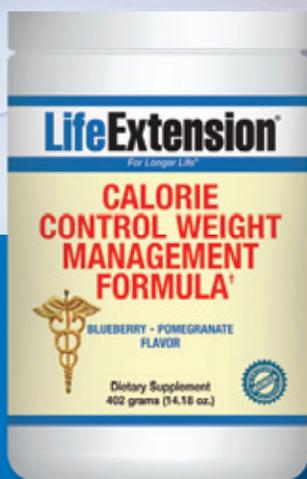
The **Calorie Control Weight Management Formula** is designed to be taken before the two heaviest daily meals to help neutralize the dangers of caloric excess. The ingredients were chosen based on scientific findings that age-associated fat accumulation is at least partially caused by the loss of one's 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.



Item #01493

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. Consult your healthcare provider before taking this product if you have difficulty swallowing or have esophageal narrowing.

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



AVOID ACCELERATED AGING with **CARNOSINE**

As we age, destructive **glycation** processes run rampant throughout our bodies.

Glycation involves a reaction of proteins with sugars that creates a variety of aging conditions ranging from wrinkled skin to cell structure damage.

Studies have shown that **carnosine** can inhibit **glycation**, while guarding the nervous system against toxic heavy metals.

A new laboratory study corroborates earlier research showing that **carnosine** can extend life span*.

Life Extension®'s Super Carnosine Caps provide **500 mg** of L-carnosine per capsule—a dose **10 times more potent** than most commercial brands. **Super Carnosine Caps** also contain **luteolin** and **benfotiamine** (lipid-soluble vitamin B1) to provide multifaceted protection against glycation and its deadly consequences.

The recommended daily dose of two capsules provides:

L-Carnosine	1000 mg
Benfotiamine	100 mg
Thiamine HCL	100 mg
Luteolin	8 mg

The retail price for a bottle of 90 500 mg **Super Carnosine Caps** is \$66. If a member buys four bottles, the price is reduced to just **\$45** per bottle. Item # 01287

To order **Super Carnosine Caps**, call 1-800-544-4440 or visit **www.LifeExtension.com**



Item #01287

* *Rejuvenation Res.* 2010 Aug;13(4):453-7.

Note: Those who take the **Mitochondrial Energy Optimizer** are already consuming 1,000 mg of L-carnosine, along with benfotiamine.

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.



IN THE NEWS

Magnesium Supplements May Reduce Diabetes Risk

Supplementing with magnesium may improve insulin sensitivity and reduce the risk of developing type 2 diabetes, according to new findings from German scientists.¹ Diabetes affects an estimated 24 million Americans, or 8% of the population.²

Fifty-two overweight, insulin resistant, non-diabetic individuals with normal serum magnesium levels were randomized to receive 345 mg of magnesium or placebo each day for 6 months. Magnesium supplements improved fasting blood glucose by about 7% and improved 2 out of 3 markers of insulin sensitivity. The supplemented group also displayed a trend toward improved blood pressure.^{1,2}

While magnesium occurs in dietary sources such as leafy green vegetables, grains, nuts, and milk, previous research indicates that many adults do not meet the RDA (320 mg/day for men and 420 mg/day for women).² The researchers estimate that each 100 mg increase in magnesium intake may lower the risk of developing type 2 diabetes by 15%.²

—E. Wagner, ND

1. *Diabetes Obes Metab.* 2011 Mar;13(3):281-4.
2. <http://www.nutraingredients-usa.com/Research/Magnesium-supplements-may-reduce-diabetes-risk-Study>. Accessed January 26, 2011.

Green Tea May Help Prevent Alzheimer's Disease

A research team from Newcastle University in the United Kingdom recently concluded that consuming green tea on a regular basis may provide protection against Alzheimer's disease and other dementias.*

"There are certain chemicals we know to be beneficial and we can identify foods which are rich in them, but what happens during the digestion process is crucial whether these foods are actually doing us any good," Ed Okello of Newcastle says in a news release.

In the case of green tea, the beneficial compounds are called polyphenols, which, when ingested, are broken down to produce a concoction of compounds. These are the compounds that the researchers tested.

"What was really exciting about this study was that we found when green tea is digested by enzymes in the gut, the resulting chemicals are actually more effective against key triggers of Alzheimer's development than the undigested form of the tea," Okello said. "In addition to this, we also found the digested compounds had anti-cancer properties, significantly slowing down the growth of tumor cells which we were using in our experiments."

—J. Finkel

- * <http://www.ncl.ac.uk/press.office/press.release/item/protective-properties-of-green-tea-uncovered>. Accessed January 24, 2011.



Vitamin D Insufficiency Linked to Autoimmune Lung Disease

The journal *Chest* reports the finding of researchers at the University of Cincinnati of an increased incidence of vitamin D insufficiency in patients with connective tissue disease-related interstitial lung disease (ILD), an autoimmune condition characterized by lung fibrosis.*

Dr. Kinder's team compared serum 25-hydroxyvitamin D levels of 67 patients with connective tissue disease-related ILD to vitamin D levels measured in 51 patients with other forms of ILD. Insufficient levels of vitamin D were found in 79% of those with connective tissue disease-related ILD and deficiency was revealed in 52%, compared with 31% and 20% of those with other interstitial lung diseases.

"These findings suggest that there is a high prevalence of vitamin D deficiency in patients with ILD, particularly those with connective tissue disease," Dr. Kinder stated. "One of the next steps is to see if supplementation will improve lung function for these patients."

Editor's note: Vitamin D insufficiency has been examined as a modifiable factor in a number of autoimmune disorders, including connective tissue diseases such as lupus, scleroderma, and rheumatoid arthritis.

—D. Dye

* *Chest*. 2010 Aug 5.



Timing Important in Cancer Chemoprevention

An article published in *Carcinogenesis* reports a protective benefit for vitamin E and selenium against esophageal cancer, particularly if administered early after exposure to a carcinogen.*

Scientists gave five groups of rats a diet that contained reduced amounts of vitamin E and selenium. All but one group were administered a carcinogen for 5 weeks. One of the carcinogen-treated groups received the diet supplemented with vitamin E and selenium for the first 10 weeks of the study, while a second group was supplemented between 11 and 25 weeks. A third group received a supplemented diet throughout the 25-week experiment.

Although a benefit for late supplementation was observed, rats that received diets containing sufficient vitamin E and selenium throughout the course of the study and those that received the vitamins for the first ten weeks had a significantly lower number of visible tumors and esophageal carcinomas compared with the other carcinogen-treated animals.

Editor's note: The findings support the results of a clinical trial of supplementation with vitamin E and selenium which found a significant reduction in esophageal cancer deaths among younger participants, but not among older subjects who are likelier to have precancerous lesions.



—D. Dye

* *Carcinogenesis*. 2010 Dec 24.

A Truly Healthy Glow

Contrary to what the tanning industry might have people believe, the way to the most attractive glow is not via skin-damaging sun exposure, but may be had by consuming fruits and vegetables that are high in carotenoids.

In a study described in *Evolution and Human Behaviour*, Ian Stephen and colleagues at the University of St. Andrews in Scotland found that individuals with a greater intake of carotenoids due to fruit and vegetable consumption have an increased yellow skin tone consistent with enhanced carotenoid absorption.* When viewing photographs of Caucasian faces, volunteers judged the golden color associated with carotenoids as appearing healthier than tones typical of tanning. A preference for a yellow tone was also observed in research involving an African population.

"Most people think the best way to improve skin color is to get a suntan, but our research shows that eating lots of fruit and vegetables is actually more effective," Dr. Stephen stated.

Editor's note: Carotenoids, which include alpha- and beta-carotene and other antioxidant compounds, give red, orange, and yellow fruit their color, and also occur in green vegetables.

—D. Dye

* *Evol Hum Behav*. 2010 Dec 23.



Greater Zinc Intake Associated with a Lower Risk of Death from Prostate Cancer

An article published in the *American Journal of Clinical Nutrition* reveals a protective effect for a higher dietary intake of zinc against mortality from cancer of the prostate.*

Researchers evaluated data from 525 men enrolled in a case-control study in Sweden. Participants were diagnosed with prostate cancer between January, 1989 and July, 1994. Responses to dietary questionnaires were analyzed for the intake of calories and zinc from food sources.

Over the 6.4 year average follow-up period there were 475 deaths, of which 218 were attributed to prostate cancer. Men whose intake of zinc was among the highest 25% of participants had a 36% lower adjusted risk of dying from prostate cancer compared with those whose intake was among the lowest fourth. For those whose tumors were localized, there was a 76% lower risk among those whose intake was highest.

Editor's note: The authors of the report note that the results of previous research concerning a protective effect for zinc in the prevention of prostate cancer have been inconsistent, and suggest that zinc could play a greater role in determining outcome of the disease rather than in its development.

—D. Dye

* *Am J Clin Nutr.* 2011 Jan 12.

Omega-3 Fatty Acids Essential for Healthy Mood

Low intake of omega-3 fatty acids has long been linked with psychiatric disturbances, though the exact mechanism has been unknown. Now, a group of French scientists has discovered that dietary deficiency of omega-3 fats in animals causes a loss of function in certain central nervous system receptors that are crucial for neurotransmission and a healthy mood.^{1,2}

In this study, scientists used a specific diet to mimic a lifelong imbalance of essential omega-3/omega-6 polyunsaturated fatty acids in mice. Reducing omega-3 levels reduced synaptic and behavioral function of the CB1R receptor in mice, which resulted in impaired emotional behavior.^{1,2}

These findings help explain the correlation between omega-3-deficient diets, which are widespread in the industrialized world, and mood disorders such as depression.

—E. Wagner, ND

1. *Nat Neurosci.* 2011 Jan 30.

2. <http://www.nutraingredients.com/Research/Omega-3-mood-mechanism-mooted>. Accessed February 1, 2011.



Study Associates Vitamin E with Increased Life Span Among Specific Groups

The journal *Age and Ageing* describes the finding of an association between supplementing with vitamin E and longer life among older male smokers.*

The study involved 10,837 participants in the Alpha-Tocopherol Beta-Carotene Cancer Prevention Study which examined the effect of supplementation with these nutrients on the risk of lung cancer in Finnish male smokers aged 50–69 years upon enrollment. Participants received beta-carotene, vitamin E, both beta-carotene and vitamin E, or a placebo through April, 1993.

The current analysis was restricted to men who participated in follow-up past the age of 65. While supplementing with vitamin E appeared to have no effect on the life span of subjects between the ages of 65 to 70, mortality over follow-up was reduced by 24% when the subjects were 71 years of age or older compared to those who did not receive the vitamin.

Editor's note: This effect was mainly due to fewer deaths among men who smoked less than a pack of cigarettes daily and whose vitamin C intake was above the median of the study's participants, for whom vitamin E was associated with an increase in life span of two years.

—D. Dye

* *Age and Ageing.* 2011 Jan 17.



Belly Fat Puts Women at Risk for Osteoporosis

A recent study presented at the annual meeting of the Radiological Society of North America (RSNA) found that having too much internal abdominal fat may have a damaging effect on bone health.* This runs counter to the long-held belief that obese women were at lower risk for developing osteoporosis, stemming from the idea that excess body fat had a protective effect against bone loss.

Miriam A. Bredella, MD, a radiologist at Massachusetts General Hospital and assistant professor of radiology at Harvard Medical School, led a team of colleagues who set out to evaluate the abdominal, subcutaneous, visceral, and total fat, as well as bone marrow fat and bone mineral density, in 50 premenopausal women with a mean Body Mass Index of 30.

Their study revealed that women with more visceral fat had increased bone marrow fat and decreased bone mineral density.

“Our results showed that having a lot of belly fat is more detrimental to bone health than having more superficial fat or fat around the hips,” Dr. Bredella said. “It is important for the public to be aware that excess belly fat is a risk factor for bone loss, as well as heart disease and diabetes.”

—J. Finkel

* *Bone*. 2010 Dec 30.

High Dietary Fat, Cholesterol Linked to Increased Breast Cancer Risk

Researchers at the Kimmel Cancer Center at Thomas Jefferson University recently found that elevated fat and cholesterol levels, which are common in the American diet, play a major role in the growth and spread of breast cancer.*

The research team was led by cancer biologist Philippe G. Frank, PhD, assistant professor in the Department of Stem Cell Biology and Regenerative Medicine at Jefferson. The team set out to determine the link between diet and breast cancer. Other current studies have shown an increase in breast cancer incidence in immigrant populations that relocate from a region of low incidence. This aligns with the staggering fact that the incidence rate of breast cancer is five times higher in Western countries than other developed countries.

The result of the study showed that mice fed a Western diet and predisposed to develop mammary tumors can develop larger tumors that are faster growing and metastasize more easily compared to animals eating a control diet.

Several biomarkers of tumor progression were examined to confirm the aggressive nature of the cancer in animals fed a high cholesterol diet.

“These data provide new evidence for an increase in cholesterol utilization by breast tumors and thus provides many new avenues for prevention, screening, and treatment,” Dr. Frank says.

—J. Finkel

* <http://www.jeffersonhospital.org/News/2011-january-kcc-frank-ajp.aspx>. Accessed January 25, 2011.



Heart Surgeries Trigger Strokes, Seizures

Loyola University Health System neurologists reported in a recent issue of the journal *Hospital Practice* that neurological complications like seizures and strokes account for “considerable morbidity and mortality” following cardiac procedures.* Delirium, pituitary gland problems, spinal cord or peripheral nerve injuries, and central nervous system infections are all issues that may also arise.

“Neurologic complications are always a risk with cardiac surgery, especially in older patients who have health problems,” Dr. Jose Biller, first author of the article and chairman of the Department of Neurology at Loyola University Chicago Stritch School of Medicine said.

While Biller said that despite the risks, cardiac surgeries generally are highly beneficial and life saving, “neurologic complications remain an important cause of morbidity, hospitalization time and mortality following cardiac surgery and interventional cardiac procedures.”

Editor’s Note: This is yet another reason why *Life Extension* readers should avoid cardiovascular disease.

—J. Finkel

* *Hosp Pract (Minneapolis)*. 2010 Nov;38(4):83-9.

Restore
Cellular
Energy
with...

NEXT-GENERATION

CoQ10

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:

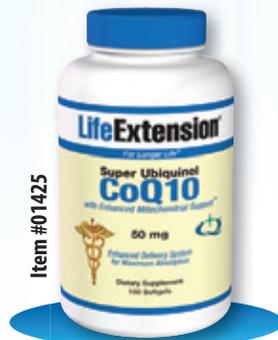
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5. Ghosal S. *Shilajit in Perspective*. Alpha Science International Limited; 2006.
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PrimaVie® is a registered trademark of Natreon, Inc. Kaneka QH® is a registered trademark of Kaneka Corporation.



Item #01426

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**



Item #01425

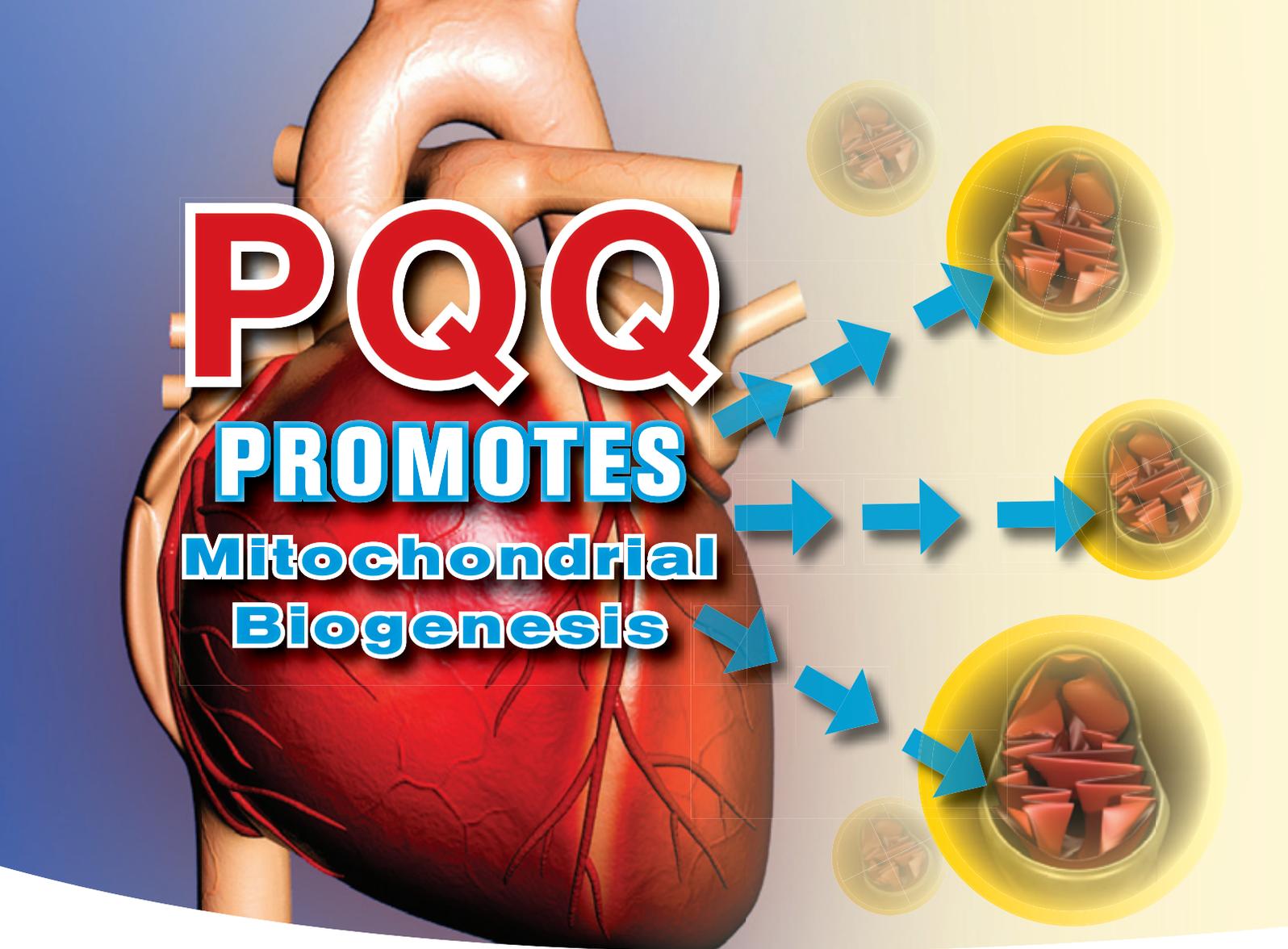
The retail price for 100 50 mg softgels of **Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™** is \$58. If a member buys four bottles, the price is reduced to \$39.75 per bottle. **Item # 01425**



Item #01431

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



PQQ

PROMOTES

Mitochondrial Biogenesis

Critical Importance of Mitochondria

Back in the early 1980s, **Life Extension**[®] was the first to introduce **CoQ10** as a proven method to enhance **mitochondrial** energy production.

CoQ10 has since gained universal scientific recognition for its role in supporting cellular performance throughout the body.¹⁻⁶

Today, a major advance in combating cellular aging called **PQQ** (*pyrroloquinoline quinone*) is being launched. In an unprecedented breakthrough, researchers have discovered that **PQQ** supports **mitochondrial biogenesis**—the spontaneous growth of **new mitochondria** in aging cells!⁷

Mitochondria are the cellular energy generators that supply virtually all the power your body requires for a healthy life span. An abundance of published studies underscores the critical importance of the **mitochondria** to overall health, especially as we age.⁸⁻¹⁴ Energy-intensive organs like the heart and brain are *dense* with mitochondria.

Until recently, the only natural ways for aging individuals to increase the number of mitochondria in their bodies were long-term calorie restriction or exhaustive physical activity—which are difficult or impractical for most people to implement.

PQQ offers a viable alternative.

The Ultimate Cell Rejuvenator

The enormous amount of energy generated within the mitochondria exposes them to constant free radical attack. The resulting **mitochondrial decay** is a hallmark of aging.

PQQ protects and augments delicate mitochondrial structures to promote *youthful* cellular function in **three** distinct ways:

- **Antioxidant power.** Like CoQ10, PQQ is a highly potent antioxidant. Its extraordinary molecular stability enables it to facilitate thousands of biochemical reactions in the mitochondria without breaking down, for maximum antioxidant and bioenergetic support.¹⁵
- **Favorably modulates gene expression.** PQQ activates *genes* that promote formation of new mitochondria⁷—and beneficially interacts with genes directly involved in mitochondrial health. These same genes also support **healthy body weight**, normal **fat** and **sugar metabolism**, and **youthful cellular proliferation**.¹⁶
- **Mitochondrial defense.** Mitochondria possess their *own* DNA, distinct from the DNA contained in the nucleus. Unfortunately, compared to nuclear DNA, mitochondrial DNA is relatively unprotected. PQQ's antioxidant potency and favorable gene expression profile act to support mitochondrial defense.

Vital Protection for the Aging Heart and Brain

PQQ is an **essential nutrient**, meaning your body cannot make it on its own. A growing body of research indicates that PQQ's unique nutritional profile supports heart health and cognitive function—alone and in combination with CoQ10.^{17,18} This comes as no surprise, given how much energy these vital organs need.

Research shows that PQQ supports **heart cell function** in the presence of free radicals and promotes blood flow in heart muscle.¹⁹

When taken in combination with **CoQ10**, just **20 mg per day** of PQQ has been shown to promote **memory, attention, and cognition** in maturing individuals.²⁰

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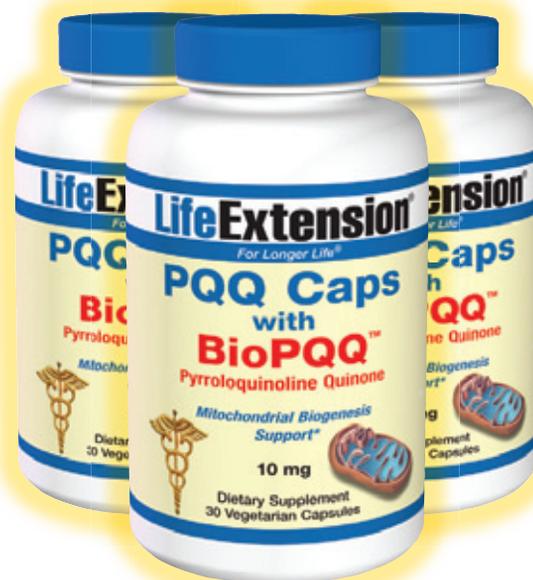
A Breakthrough Weapon in the Battle Against Aging

Life Extension® has identified a purified, highly potent form of PQQ from Japan that is produced through a natural fermentation process. The result is the highest quality PQQ available on the market today called **BioPQQ™**.

A bottle containing **30 10 mg** vegetarian capsules of **PQQ Caps with BioPQQ™** retails for \$24. If a member buys four bottles, the price is reduced to just **\$16.50** per bottle.

A 10 mg dose of PQQ has also been added to the **Mitochondrial Energy Optimizer** and **Mitochondrial Basics** formulas.

Contains rice.



Item #01500

To order new
PQQ Caps with BioPQQ™
standalone or any other
PQQ-containing formula
call **1-800-544-4440** or visit
www.LifeExtension.com

BioPQQ™ is a trademark of MGC (Japan)



BY ROBERT HAAS, MS

Widely Used in Europe...

Natural Sedative *Restores* Youthful Sleep

If you find yourself routinely struggling to fall asleep—or to stay asleep—you're not alone. A staggering **30%** of Americans suffer from **chronic insomnia**,¹ while approximately **60** million experience problems falling asleep in a given year.²

In addition to its adverse impact on mood and quality of life, chronic insomnia can increase one's risk for most degenerative diseases.³⁻¹⁰

In the search for natural ways to combat this health threat, researchers have isolated a set of nutritional compounds called **bioactive milk peptides** that promote sustained and restful sleep patterns while inducing a state of relaxation. >>

Bioactive Milk Peptides: A Natural Sedative?

For generations, mothers have given their children a warm glass of milk before bed as a way to help them fall asleep. As far back as **1934**, this home remedy gained scientific validation when it was observed that people who ate milk and cornflakes were more likely to enjoy a full night of uninterrupted sleep.¹¹

In **1997**, pediatric researchers added to the evidence by demonstrating that newborns given an infant formula containing milk fell asleep not solely due to nursing and being held, but owing specifically to something in milk itself.¹²

In **2000**,¹³ researchers identified what that “something” was. It turns out that nutrients found in cow’s milk called **bioactive peptides** (chains of amino acids) exert a *sedative* effect on the brain and induce sustained sleep patterns.

These **bioactive milk peptides** have since been shown to act on the brain’s **GABA-A** receptors,¹⁴ the same mechanism of action that makes the class of sedatives known as *benzodiazepines* so effective.¹⁵ The advantage of milk peptides, of course, is that they induce relaxation and sleep without the side effects associated with long-term benzodiazepine use.

In pre-clinical models, milk peptides^{15,16} markedly reduce anxiety and improve sleep in animals subjected to chronic stress.¹⁷

In *human* studies, a proprietary **bioactive milk peptide** compound used widely in **Europe** has been shown to effectively induce relaxation, leading not only to deeper, more restorative sleep, but *also* to substantial improvements across a wide range of **stress markers**.

Bioactive Milk Peptides: Reducing Stress, Restoring Sleep

When given this proprietary **bioactive milk peptide** compound, aging individuals suffering from stress-related symptoms and chronic insomnia consistently exhibit substantial reductions in biomarkers associated with the stress response. These stress response biomarkers include elevated **cortisol**, **heart rate**, and **blood pressure**, along with **physical** and **psychological symptoms**.

In a number of especially noteworthy published studies, the improvements in **stress-related markers** proved to be both significant and system-wide.

For example, a group of over 60 women suffering from a constellation of stress-related problems was given **150 mg per day** of this **bioactive milk peptide** compound.¹⁸ Before treatment, they suffered from a broad range of symptoms, including digestive, cardiovascular, pulmonary, emotional, cognitive, and social disorders.

Compared to controls, after just 30 days, significant improvements were observed for the **milk peptide** group in symptoms related to digestion (**65.6%** improvement—21% greater improvement than the placebo group), cognitive function (**62.5%** improvement—16.3% over placebo), cardiovascular function (**48.9%**—9.9% over placebo) and social difficulty (**40.2%**—9.7% greater than placebo).¹⁸

Interestingly, for those women exhibiting symptoms of the *highest intensity* at the outset of the study, the 30-day improvements were dramatic:¹⁸

As evidenced in the table below, compared to the placebo group, these women saw their stress-related conditions *slashed* across the board, with improvement almost **30% higher** in some symptom categories.¹⁸ Similarly compelling results have been observed in men.

Percentage Improvements in Stress-Related Conditions*

Symptom	Placebo Group	Milk Peptide Group	% Difference
Digestive	36.6	66.1	29.5
Cardiovascular	35.5	48.0	12.5
Pulmonary	43.1	68.9	25.8
Cognitive	36.7	64.8	28.1
Emotional	23.5	43.8	20.3
Social	22.5	36.7	14.2

* Recorded in women with the highest intensities of symptom manifestation.



Cortisol Levels Slashed in Human Study

In a double-blind study involving over 40 healthy male subjects,¹⁹ two groups were subjected to psychological and physical stress tests, with cortisol concentrations, heart rate, and blood pressure levels measured at specific intervals.

Each of these three stress response markers were substantially *lowered* in the group taking the proprietary *bioactive milk peptide* compared to controls.¹⁹

Cortisol levels in the **placebo** group—measured before and after administration of stress testing—saw a net change of only **-3.39%**. This means that the harmful spike in cortisol typically caused by stressful situations was almost entirely unaffected in the group that did not receive treatment. By comparison, the *milk peptide* group experienced a net reduction in **cortisol** of **-20.69%**. In other words, the release of cortisol was kept under control by the *milk peptides*, limiting its detrimental effects.¹⁹

Natural Sedative Restores Youthful Sleep

- Over 30% of Americans suffer from chronic insomnia, while approximately 60 million experience problems falling asleep in a given year.
- The dire health consequences of sleep debt range from chronically elevated levels of cortisol (the stress hormone), insulin resistance, and increased fat storage to greater risk of mortality from all causes, including cancer and cardiovascular disease.
- A proprietary set of bioactive milk-derived peptides used widely in Europe has been identified that operate along the same neurological pathways as anti-anxiety drugs—without side effects.
- Published studies show they effectively combat the stress response, blunt elevations of cortisol, and relieve anxiety.
- Milk peptides decrease the amount of time it takes to fall asleep, improve sleep efficiency, and increase daytime wakefulness.
- By improving several aspects of healthy sleep, milk peptides may offer protection against the many health disorders associated with sleep deprivation.



Cardiovascular Benefits

The **milk peptide** group also experienced an almost **50% lower** increase in heart rate when placed under stress than those in the placebo group.¹⁹

The same beneficial effects were observed in **blood pressure** readings in the milk peptide group after placement under experimental stress. Following the mental stress test, for example, systolic blood pressure increased **21.25%** in the control group, but only **14.65%** in the milk peptide group. Similarly, diastolic blood pressure readings increased **21.24%**, compared to **15.26%** in the peptide group.¹⁹

The proprietary milk peptide yielded positive outcomes in nearly all indicators measured, for both men and women.



The Key to Falling Asleep: Combating Cortisol and the Stress Response

At the core of this proprietary milk peptide compound's sedative effect is a demonstrated power to effectively *blunt* the **stress response**, a primary causative factor in chronic insomnia.

Stress, anxiety, and sleep deprivation share one crucial feature in common:²² each prompts your adrenal glands to secrete **cortisol**,^{23,24} the stress hormone. Since most people now encounter significant stress in their daily lives, chronic cortisol overexposure probably accounts to a great extent for the extraordinary prevalence of insomnia today.

As an evolutionary adaptation to temporary external dangers, **cortisol** enhances alertness, raises your heart rate, and increases blood pressure. It mobilizes energy *toward* handling a challenging situation and *away* from a relaxed, inattentive state. This may enable you to manage a sudden crisis effectively, but it also makes it difficult, if not impossible, **to fall asleep**. In this sense, cortisol release evolved as a temporary, stopgap measure,

but our physiology is not structured to withstand *sustained* cortisol exposure.

Cortisol also boosts **insulin levels**.²² This in turn creates a metabolic environment that predisposes aging individuals to fat storage. Sleep deprivation also causes us to consume an average of **221 more calories** the next day than we normally would.²⁵

Interestingly, researchers have discovered that the adverse metabolic impact of even short-term cortisol elevations (increased blood sugar and higher insulin levels) is **more pronounced in the evening than in the morning**.²⁶

Together with other similarly harmful effects, *chronically* elevated cortisol levels can set in motion a cascade of pathologic physiological processes that hastens the onset of virtually all degenerative diseases. This is no longer a matter of scientific conjecture: over the past two decades, insufficient or poor-quality sleep has been definitively linked to **increased mortality from all causes**.²⁷⁻³⁰

Human Studies Verify Sleep Efficacy

Recent studies validate milk peptides' capacity to *restore* more restful sleep patterns while enhancing daytime performance and cognition.

In a placebo-controlled study of 165 healthy adults with a history of **insomnia**, participants were given **150 mg** of milk peptides or placebo each day for one month.

Changes in their ability to relax and fall asleep were evaluated using established diagnostic tools that measure **27 individual indicators** of sleep disorders and insomnia-related problems (including daytime cognition and overall function).²⁰

The proprietary milk peptide yielded positive outcomes in **nearly all indicators measured**, for both men and women.²⁰ Sleep quality, sleep efficiency, sleep disturbances, and daytime dysfunction were all improved, especially in individuals who suffered from moderate symptoms of anxiety or depression.

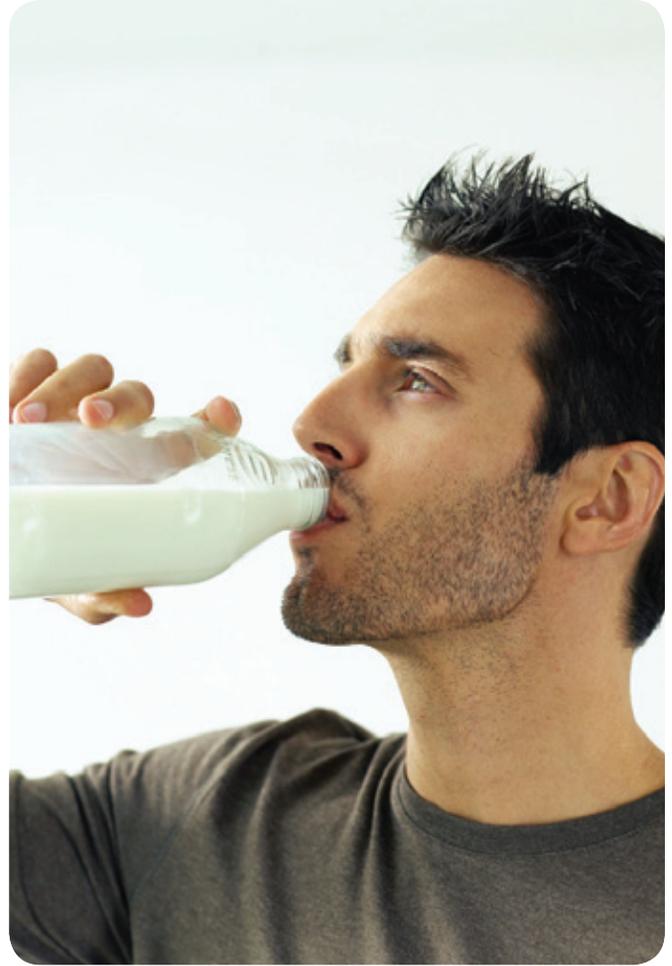
These results were confirmed by yet another clinical analysis of bioactive milk peptides in adults suffering from **pronounced sleep disturbances**.

Thirty-two healthy men and women suffering from insomnia during the preceding six months took a **150 mg capsule** of patented milk bioactive peptide one hour before bedtime—or placebo—for a month.²¹

After two weeks, the bioactive milk peptide group experienced a **50%** improvement in *sleep quality*. At four weeks, they needed **30%** less time to fall asleep and experienced improvements in daytime alertness and function.²¹

Summary

The dire health consequences of sleep deprivation range from elevated levels of cortisol (the stress hormone), insulin resistance, and increased fat storage to greater risk of mortality from all causes, including cancer and cardiovascular disease. In both animal and human studies, a proprietary set of **bioactive milk-derived peptides** used widely in **Europe** has been shown to effectively combat the stress response, blunt elevations of cortisol, and substantially eliminate stress-related symptoms across multiple systems of the body. The result is improved ability to relax and fall asleep. Using established diagnostic tools that measure sleep disorders and insomnia-related problems, this proprietary **milk peptide** yielded positive outcomes in **nearly all indicators measured**, for both men and women. ●



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

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The Deadly Effects of Chronic Insomnia: An Unfolding Pandemic

When your body is chronically deprived of sleep, levels of the stress hormone **cortisol** tend to rise, especially at the end of the day.³¹ This, in turn, raises insulin levels. Insulin promotes a metabolic environment that encourages the storage of fat. Stress, anxiety, and mild depression are the most common causes of chronic insomnia.³²⁻³⁷ Together, these unwanted phenomena negatively affect circadian rhythms and modify both sleep duration *and* sleep quality.³⁸

The range of data published during the last decade reveal a horrific, ever-growing epidemic of stress-related insomnia in the US.

According to a published 2001 scientific poll, **38%** of American adults reported obtaining **8** hours of sleep; by 2009, that number had *decreased* to only **28%**.³⁹

People suffering from chronic sleep debt can expect to experience adverse physiological changes in blood pressure, endocrine function, glucose and lipid metabolism, and sympathetic and parasympathetic nervous system balance. In contrast, studies show that sleeping 7 to 8 hours each night *reduces mortality from all causes*,⁴⁰ including automobile accidents due to drowsiness (drowsy driving causes more than 100,000 crashes a year, resulting in 40,000 injuries and 1,550 deaths).⁴¹

In addition to dermatological disorders, sleep studies have linked chronic insomnia to the following conditions:

- Anxiety and depression^{32,33,35}
- Cancer^{3,42,43}
- Impaired cognitive function (concentration and memory loss)^{4,44-46}
- Metabolic syndrome^{5,47}
- Cardiovascular disease⁴⁸⁻⁵¹
- Diabetes^{6,7,52}
- Impaired insulin action^{53,54}
- Impaired glucose control^{55,56}
- Increased body mass index (BMI)^{8,57}
- Elevated C-reactive protein levels^{9,58}
- Elevated evening cortisol levels^{6,59}
- Hypertension^{10,60}

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BY ROBERT HAAS, MS

How Chronic Insomnia Destroys Skin Health

Most of us have witnessed the adverse cosmetic impact on the face caused by just one night of sleep deprivation.

A person may look a **decade older** in response to **stress-induced** changes in facial tissues that often accompany insomnia.

Few people are aware, however, that **chronic insomnia** inflicts significant **damage** to skin tissues that range from **premature aging**^{1,2} to disorders like **eczema, psoriasis, and atopic dermatitis**.³⁻⁶

As you will read, there are natural approaches that can help you get a full night's sleep and enjoy refreshed, healthy-looking skin. > >



Recent studies validate milk peptides' capacity to restore more restful sleep patterns while enhancing daytime performance and cognition.

To maintain healthy, youthful-looking skin, most experts recommend you get at least **7 to 8 hours** of *restful* sleep each night. In today's hectic, stressed-out world, that's difficult for most people to do, with a heavy toll taken on skin health *and* overall health as a result.

Numerous studies have established that stress-induced sleep debt (insomnia) can dramatically impair skin function and integrity.⁷⁻¹¹ In addition to inducing such *inflammatory* skin conditions as eczema and psoriasis,^{3,6,12} sleep deprivation can exacerbate both **allergic** and **irritant contact dermatitis**.^{4,5}

Regrettably, many victims of these sleep debt-related health conditions don't take the right action to treat them because they (and their doctors) don't recognize the *real* source of their problem.

Poor sleep quality often accompanies normal aging. Fortunately, scientists have identified some of the underlying mechanisms that interfere with healthy sleep patterns as humans mature.

For instance, insufficient or poor-quality sleep has been associated with elevated stress-hormone (**cortisol**) levels^{13,14} and *increased mortality from all causes*.¹⁵⁻¹⁸

A decline in the body's **melatonin** production is a well known underlying factor for sleep problems in older adults. This is often accompanied by other health conditions.¹⁹

Collagen, one of the skin's primary components, plays a key role in its structure and integrity—and healthy elasticity and youthful appearance. Sleep deficit can affect the optimal process of the skin's collagen formation.

A crucial function of the skin is to maintain a barrier that prevents excessive water loss and blocks entry of toxic foreign substances. The cascade of events that occurs during the process of **collagen formation** is highly dependent on immune synchronization that is initiated during **restful nights of sleep**.^{11,20-22}

Insidious Link Between Sleep Debt and Skin Aging

Numerous studies have established that stress-induced insomnia can *dramatically* impair skin function and precipitate numerous skin disorders.⁷⁻¹¹ Sleep researchers have found that animals subjected to prolonged sleep deprivation develop **ulcerous lesions** on their legs and suffer increased risk of **bacterial invasion** through the skin owing to a breakdown in skin membrane integrity.²³⁻²⁷

In humans, sleep debt and stress have been definitively linked to skin disorders—so much so that an entire sub-specialty of dermatology has developed over the past two decades called *psychodermatology*. It emerged after an abundance of published studies revealed that many skin conditions respond well to **antidepressants** and **anti-anxiety** medications, in addition to traditional dermatologic interventions.²⁸⁻³⁰

Scientists attribute the link between chronic insomnia and skin disorders to the *immunomodulatory* or immune-altering effects induced by the release of excess **glucocorticoids** triggered by sleep debt and stress. As the name suggests, this class of hormones regulates the metabolism of **glucose**. Every cell in the human body possesses receptors for glucocorticoids. Glucocorticoids also happen to play a central role in **immune function**. (**Cortisol** is the most important of the glucocorticoids.)

Excess glucocorticoid production has been shown to negatively affect nearly every tissue in the body and *accelerate* the aging process.³¹

In terms of skin health, the sequence of events involved in the formation of **collagen** is highly dependent on the immune-balancing processes initiated during restful nights of sleep.^{7,20-22} As the major structural component of your skin (and other bodily tissues), collagen protects against UV damage and bacterial infection, maintains your skin's elasticity, seals in moisture, and preserves its youthful, healthy appearance.

This nighttime balancing process is disrupted in the presence of excess glucocorticoids (cortisol in particular). Sleeplessness ultimately has a cumulative **immunosuppressant** effect. Of particular significance for skin health are reduced levels of **interleukin-1** (IL-1) observed in insomnia sufferers. At healthy levels, this protein triggers increased white blood cell production in response to foreign invaders and plays a central role in the production of collagen.⁷ When levels of IL-1 are too low, collagen formation deteriorates.

This is how chronic insomnia can cause skin disorders related to immune dysfunction. In addition

How Chronic Insomnia Destroys Skin Health

- Chronic insomnia can also have a profoundly negative impact on skin health.
- The dire health consequences of sleep debt range from premature aging and eczema to psoriasis and dermatitis.
- A proprietary set of bioactive milk-derived peptides used widely in Europe has been identified that operates along the same neurological pathways as benzodiazepines without side effects.
- Published studies show they effectively combat the stress response, blunt elevations of cortisol, and substantially reduce stress-related symptoms across multiple systems of the body, including the skin.
- Specific immune signaling proteins negatively affected by sleep debt also regulate skin health.
- The sleep-inducing and anti-anxiety effects of bioactive milk peptides and other nutrients may protect against various skin disorders and preserve your skin's youthful, healthy appearance.



to inducing such inflammatory skin conditions as **eczema** and **psoriasis**,^{3,6,12} sleep deprivation has been shown to exacerbate both **allergic** and **irritant contact dermatitis**.^{4,5}

As you learned in the previous article, **bioactive milk peptides** significantly reduce stress-induced elevations in **cortisol** and have been demonstrated in human clinical studies to promote sustained and restful sleep patterns. They operate along the same neurological pathways as benzodiazepines without the side effects associated with long-term benzodiazepene use.

Nutrients to Enhance Skin Health While You Sleep

Studies have shown that **Indian gooseberry** and **ashwagandha**—medicinal herbs used for thousands of years by *Ayurvedic* practitioners—promote healthy skin function and appearance.³²⁻³⁵

Indian gooseberry has been shown to exert broad-spectrum antioxidant activity in the skin and to protect the skin from the damaging effects of free radicals.³⁶ For these reasons, Indian gooseberry has been used variously for dermal wound healing,³⁷ skin carcinogenesis protection,^{38,39} preventing photoaging,⁴⁰ and in general-purpose skin care products.³²



Gooseberries

In one study, a proprietary combination containing Indian gooseberry and ashwagandha extracts demonstrated a **54%** inhibition of enzymes that break down collagen and an **86%** inhibition of those that break down **hyaluronic acid**, the skin's natural moisturizer.⁴¹ This proprietary combination was shown to prevent free-radical damage to the skin and to rejuvenate skin cells by increasing circulation of oxygen and nutrients through a *reduction in stress hormones* known to exert destructive effects on the skin.

Ashwagandha has also been shown to protect the skin against the effects of stress, especially in stress-related health conditions. In a randomized, double-blind, placebo-controlled trial, 98 chronically stressed adults were assigned to receive a patented standardized extract of ashwagandha for **60** days. Study participants received either **125 mg** once or twice a day, **250 mg** twice a day, or a placebo.⁴²

All groups taking ashwagandha saw significant reductions in their stress and anxiety levels and blood pressure. The group receiving **125 mg** once a day had a **62%** reduction in anxiety compared to those taking the placebo, with anxiety scores declining even further in the group taking **250 mg** twice daily. The group receiving the daily dose of 125 mg showed a **14.5%** reduction in cortisol levels and a **13.2%** increase in **DHEA**, with the group taking 250 mg twice a day reporting significantly greater benefits.⁴²

All treatment groups taking ashwagandha experienced a decline in blood levels of **C-reactive protein (CRP)**, a marker of inflammation in the body. The study's authors concluded that the "*Daily use of Withania somnifera [ashwagandha] would benefit people suffering from the effects of stress and anxiety without any adverse effects.*"⁴²

The Sleep Hormone

Melatonin is the primary sleep hormone produced nocturnally by the pineal gland in a process driven by a "biological clock" located in the suprachiasmatic nucleus.⁴³ Melatonin promotes sleep in humans^{44,45} by acting as an endogenous regulator of the sleep-wake cycle.^{46,47}

The body's own melatonin levels decrease with age, presumably due to a decline in circadian rhythmic functions or to a gradual decline in function of the pineal gland.⁴⁸⁻⁵¹ It is widely accepted that internally produced melatonin promotes sleep and stabilizes the human sleep-wake cycle. Thus, a decline in melatonin levels due to aging may contribute to the common complaint of poor sleep quality seen in the elderly.⁵² This suggests the possibility of improving sleep in



Ashwagandha

aging people suffering from insomnia by appropriately timed treatment with melatonin.

Controlled-release melatonin, a formulation that releases melatonin gradually in the gastrointestinal tract following oral administration, has proven effective for the short-term treatment of adults aged 55 years and older who suffer from primary insomnia.⁵³⁻⁵⁷ It is considered effective enough that **controlled-release melatonin** has been licensed since **June 2007** in **Europe** and in other countries for the short-term treatment of **primary insomnia**.⁵⁸

Summary

Over **30%** of Americans suffer from chronic insomnia, while approximately **60** million experience problems falling asleep in a given year. Few people understand the profoundly negative effect of **chronic insomnia** on **skin health**.

Scientists have uncovered how excess **cortisol** and certain immune-signaling imbalances can negatively impact both **sleep** and **skin health**. By attacking these underlying factors, **bioactive milk peptides** and other nutrients may protect against various skin disorders, preserve youthful skin appearance, and facilitate more refreshing sleep patterns. ●

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

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THE POWER OF MAGNESIUM

**MOST AMERICANS DO NOT OBTAIN
SUFFICIENT MAGNESIUM FROM THEIR DIET.**

According to the National Institutes of Health, magnesium is required for more than 300 biochemical reactions in the body. Magnesium “helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, and keeps bones strong. Magnesium also helps maintain blood sugar levels already within normal range, promotes normal blood pressure, and is known to be involved in energy metabolism and protein synthesis.”^{1,2}

With so many of our body’s critical functions dependent upon magnesium, supplementation can help ensure that you obtain healthy levels of this vital mineral. The recommended intake of magnesium to maintain vascular health is 500 mg or more a day. With Life Extension®’s **Magnesium Capsules** you can easily obtain 500 mg of elemental magnesium in each capsule.

The retail price of a bottle containing 100 500 mg **Magnesium Capsules** is **\$9.50**. If a member buys four bottles, the price is reduced to just **\$6** per bottle.

Caution: If taken in high doses, magnesium may have a laxative effect. If this occurs, divide dosing, reduce intake, or discontinue product.



Item #01044

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

References:

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NEW ADVANCED FORMULAS!



Restore Restful Sleep and
Youthful Radiance with

Enhanced Natural Sleep®

The consequences of **sleep deprivation** go far beyond the miseries of fatigue and diminished performance.

Decades of clinical research document that a good night's rest supports nearly all systems of the body, including:

- Skin health and youthful appearance¹⁻⁴
- Healthy collagen formation⁵⁻⁸
- Insulin levels already within normal range⁹⁻¹¹
- Healthy body weight^{12,13}
- Glucose levels already within normal range^{14,15}
- Blood pressure already within normal range^{16,17}
- Healthy cell division¹⁸⁻²⁰
- Cardiovascular health²¹⁻²⁴
- Good mood²⁵⁻²⁷

Scientists attribute sleep-related difficulties to the unprecedented levels of *stress* most of us endure in today's fast-paced world.

To add insult to injury, sleep quality and duration decline as we grow older—at a time when we need the health benefits of a good night's rest more than ever.

Three Proven Ways to Restore Relaxation and Restful Sleep

To combat the profound impact of chronic sleep debt on health and youthful appearance, Life Extension® now offers **Enhanced Natural Sleep® with Dual-Action Melatonin**.

This new formula brings together three clinically validated, natural compounds that have been shown to support **healthy, restful sleep**, promote **healthy response to stress**, while targeting sleep debt-related factors associated with **skin aging**. The three ingredients are:

1. Bioactive Milk Peptides (Lactium®), a cutting-edge nutrient complex consisting of patented **bioactive peptides** found naturally in milk. Used widely in **Europe** to promote sustained and restful sleep patterns, published studies reveal that these **bioactive milk peptides** also promote relaxation, help with stress, and support daytime cognition.

A group of 60 women reporting a variety of sleep-related difficulties experienced as much as **65.6%** improvement in their symptoms with **150 mg** per day of these **bioactive milk peptides**.²⁸ In another study, the same **150 mg** dose induced substantial improvements across **27 markers of sleep quality** and **stress response** in 165 healthy adults.²⁹ And in a third study, a group of healthy men and women taking 150 mg per day of these **bioactive milk peptides** for one month experienced a **50%** improvement in **sleep quality** after two weeks and needed **30%** less time to *fall* asleep after 4 weeks.³⁰

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

2. Melatonin (very low dose). Melatonin levels naturally *decline* with age and adversely affect sleep patterns in many people. Both **immediate** and **time-release** melatonin has been shown to support restful sleep. So much so that time-release melatonin has been licensed since **June 2007** in Europe and other countries for the short-term treatment of **sleep disorders**.³¹

3. Sendara™. A proprietary nutrient complex consisting of **ashwagandha** and **Indian gooseberry** extracts. Prized in traditional cultures for their ability to promote healthy skin function and appearance, these plant-based compounds have since gained substantial *clinical* validation. Indian gooseberry provides broad-spectrum antioxidant support and has been used to preserve youthful skin health and appearance in many skin care products.³²⁻³⁵ Ashwagandha promotes a healthy response to stress, yielding **62% reductions in anxiety** compared to placebo with just **125 mg** per day in one clinical study.³⁶

Customized Formulas for Optimal Sleep and Stress Support

Enhanced Natural Sleep® with Dual-Action Melatonin should be taken 30-60 minutes before bedtime to help with sleep. The suggested daily serving size of just one capsule supplies:

Bioactive milk peptides (Lactium®)	150 mg
Melatonin (immediate release)	750 mcg
Melatonin (time-release)	750 mcg
Sendara™	200 mg

A bottle containing 30 capsules of **Enhanced Natural Sleep® with Dual-Action Melatonin** retails for \$22. If a member buys four bottles, the price is reduced to just **\$15** per bottle.



Item #01507

To order any of these ADVANCED SLEEP AND STRESS RELIEF FORMULAS, call 1-800-544-4440 or visit www.LifeExtension.com

If you find you don't sleep well with melatonin—or are already taking one of **Life Extension®**'s standalone melatonin formulas at a different dose that works for you—we also offer **Enhanced Natural Sleep® without Melatonin**.

The suggested daily serving of one capsule supplies:

Bioactive milk peptides (Lactium®)	150 mg
Sendara™	200 mg

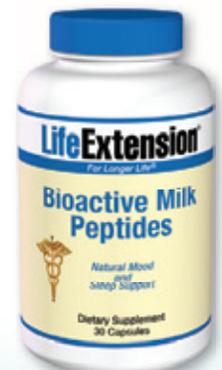
A bottle containing 30 capsules of **Enhanced Natural Sleep® without Melatonin** retails for \$20. If a member buys four bottles, the price is only **\$13.50** per bottle.



Item #01511

To help you deal with the stress of everyday life, you may also choose **Bioactive Milk Peptides** in standalone form, for daytime use to help with stress or before bedtime to support relaxation. Each capsule contains **150 mg** of the same patented formula Europeans have used for years to help with sleep and stress-related issues.

A bottle containing 30 capsules of **Bioactive Milk Peptides** retails for \$18. If a member buys four bottles, the price is only **\$12** per bottle.



Item #01512

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Contains milk.

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FOR YOUNGER-LOOKING SKIN

RejuveneX[®] FACTOR

Expertly Formulated With Advanced Anti-Aging Ingredients

RejuveneX[®] Factor incorporates nutrients with proven therapeutic value, resulting in more noticeable skin firmness and elasticity, smoother skin tone, and vibrant texture and volume:

- **POMEGRANATE** demonstrates some of the most potent antioxidant properties of any plant.¹
- **MATRIXYL™ 3000** restores youthful tone and texture by nourishing collagen and reducing sagginess.
- **CERAMIDE-2**, together with Ceraphyl[®] NGA, helps prevent dehydration even when the moisture level in your skin diminishes with age.²
- **GRAPE SEED EXTRACT** contains powerful phenolic compounds that help promote the elasticity, flexibility, youthfulness, and health of your skin.³

RejuveneX[®] Factor is formulated with the QuSome[®] advanced efficacy delivery system that enables these ingredients to penetrate the skin's lower layers for greater nourishment and extended protection.

More Active Ingredients Than Other Anti-Aging Skin Creams

With 25 active ingredients, RejuveneX[®] Factor is the world's most nutritionally complete skin care formula. RejuveneX[®] Factor contains multiple antioxidants and other ingredients that have been scientifically documented to keep skin youthful, including:

- **GREEN AND WHITE TEA EXTRACTS** help keep your skin looking youthful by providing protection against oxidative stress.

Matrixyl™ 3000 is a trademark of Sederma, Inc.
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4. *Carcinogenesis.* 2003 May;24(5):927-36.

These antioxidants help combat the visible aging effects associated with glycation—reducing visible signs of aging by as much as 75%.⁴

- **VITAMIN C** in ascorbyl phosphate form quenches skin-damaging free radicals and nourishes the skin's collagen strands.
- **HYALURONIC ACID** to help the skin retain moisture.
- **ALPHA LIPOIC ACID**, a potent and versatile antioxidant that helps reduce the appearance of premature wrinkling of the skin and improve skin texture.
- **BETA-GLUCAN**, which has been shown to penetrate deep into the skin and deliver significant skin benefits as a long-lasting, film-forming moisturizer, is essential to retaining youthful-looking skin. Beta-glucan's ability to penetrate the epidermis to reach the dermis (the layer where wrinkles form) makes this ingredient essential for any skin care regimen. It has also been shown to increase skin firmness and nourish collagen.
- **VITAMIN A** improves the appearance of wrinkles associated with natural aging.
- **VITAMIN E** in both alpha and gamma tocopherol forms helps protect against environmentally induced oxidation in the skin's outer layer.
- **RNA** (ribonucleic acid) is critical for healthy skin rejuvenation.

A 1.7-fl.-oz. (50-mL) pump of RejuveneX[®] Factor retails for \$65. If a Life Extension[®] member buys four bottles, the price is reduced to just \$41.25 per bottle.



Item #00918

RejuveneX[®] is formulated with ingredients shown to dramatically improve the appearance of dry, creased, or damaged skin.

To order RejuveneX[®] Factor, call 1-800-544-4440, or visit www.LifeExtension.com

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:

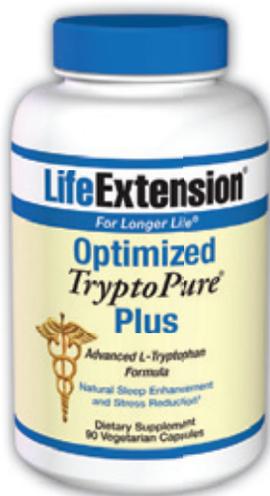
- 1) Poor sleep quality
- 2) Emotional mood and stress
- 3) Weight gain and appetite
- 4) Loss of feeling of well-being

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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Perluxan® is used by permission.
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To order **Optimized TryptoPure® Plus**,
call **1-800-544-4440** or visit **www.LifeExtension.com**

Contains corn and rice.

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 GARY GOLDFADEN, MD, AND ROBERT GOLDFADEN

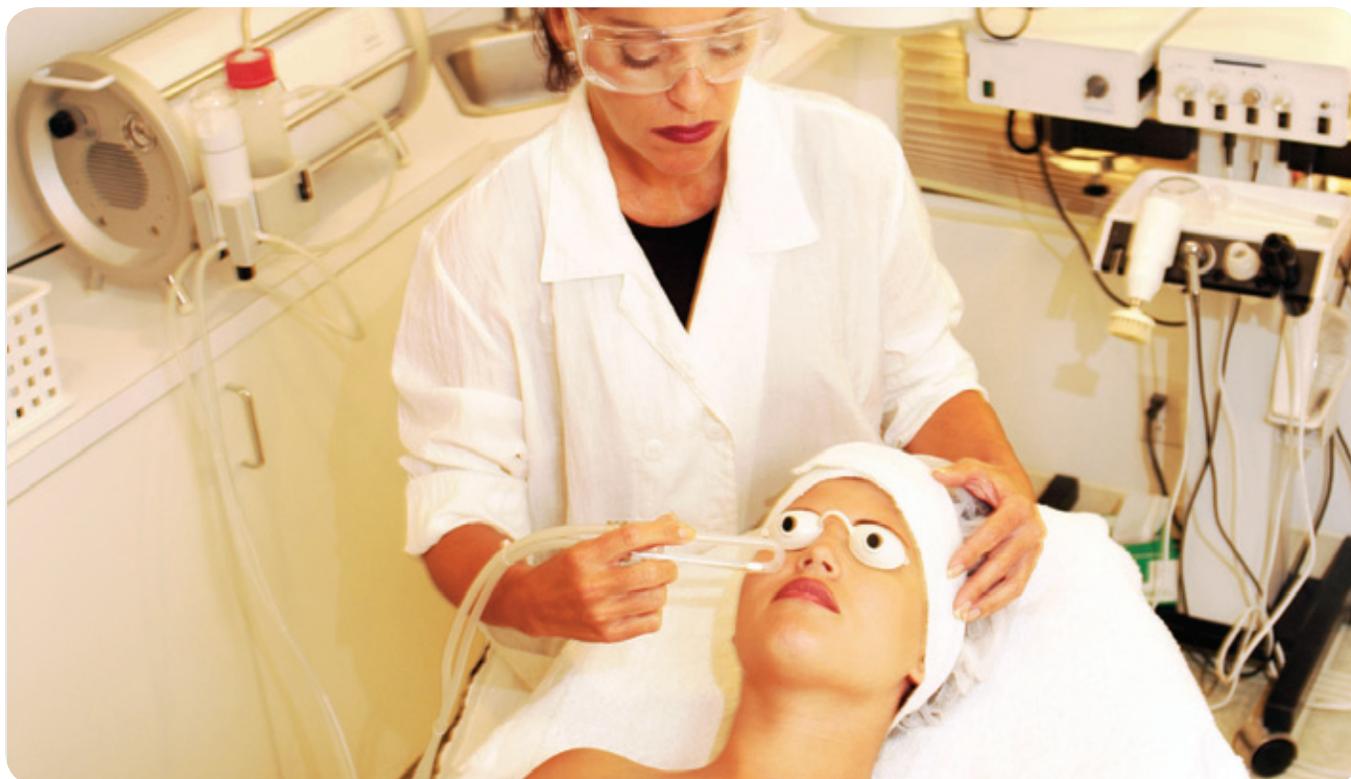
Novel Method to *Reverse* Age-Related Skin Imperfections

Microdermabrasion is one of the top non-surgical skin restoration procedures for men and women.¹

This medically administered exfoliation technique has been shown to dramatically reduce the appearance of acne scars, wrinkles, and fine lines.²

Unfortunately, its high cost, along with the significant health risks the procedure poses in some cases, makes microdermabrasion an unattractive option for many people.

In this article, you will learn of a cutting-edge exfoliant alternative for at-home use. This novel topical application capitalizes on the unique properties of organic amber crystals to restore your skin's natural radiance. In dermatologist test cases, it produced as much as 75% improvement in the appearance of wrinkled, damaged, aging skin! > >



Microdermabrasion: Major Benefits, Serious Drawbacks

In 1985, two doctors based in Italy (Mattioli and Brutto) developed the first **microdermabrasion** machine. It represented a quantum leap forward in anti-aging skin care. Their device exfoliates the skin using a spray of micro-fine crystals that are continuously removed by vacuum, a procedure that offered many advantages over earlier dermabrasion techniques.

Microdermabrasion reached the US in the mid-1990s. As a result of this technological advancement, microdermabrasion quickly became one of the most popular cosmetic procedures performed in doctors' offices. Even today, along with the newer Botox® and hyaluronic acid (Restylane® or Juvederm®) injections, microdermabrasion still remains one of the top cosmetic procedures performed.¹

Although extremely effective, the mechanized microdermabrasion process can also carry **serious risks**. Improperly sanitized machines can allow for the possibility of cross-contamination and infection from one patient to the next due to bloodborne pathogens.

Improper use of the machine may further result in the exfoliating crystals perforating the skin or even *entering the eye* to cause extreme irritation.

Those with undiagnosed lesions on their skin, women who are pregnant or breastfeeding, sufferers of **keratosis** (a localized horn-like overgrowth of skin, sometimes discolored), people with an active outbreak of **acne** or **rosacea**, and individuals with autoimmune disorders, diabetes, eczema, lupus, psoriasis, or dermatitis may be unsuitable candidates for the in-office machine procedure.

Expense is also a significant drawback. Microdermabrasion performed in a certified medical office or clinic—the recommended, safe setting for administration of this procedure—can cost up to \$300 per treatment.² With an average of 12 sessions and an initial consultation fee of \$150, this puts the total cost for a professional series of microdermabrasion treatments close to \$4,000.

Day spas and beauty salons generally charge as much or more for their microdermabrasion treatments *without* yielding the same professional-quality results.

Rejuvenating the skin by superficially removing its outer layers is a practice that goes back thousands of years.

A Safe, Low-Cost, At-Home Alternative

Fortunately, for those who wish to experience a gentler form of microdermabrasion, a novel, dermatologist-tested exfoliant cream is now available for use at home. In patient after patient, this cream has been clinically proven to remove dead skin using fine particles of a natural organic substance known as **amber**. Traditional cultures throughout history have recognized the healing powers of amber. Modern clinical use confirms amber's ability to rejuvenate the skin.

In one notable case, a woman presented to a dermatologist with dull, tired-looking skin and many fine lines around her eyes and on her forehead caused by premature aging and sun damage. She received a trial-size portion of an exfoliating product containing amber crystals. After using the product for three weeks, she returned to the doctor's office. The physician noted marked improvement in the texture, tone, and radiance of the patient's skin. Additionally, there was over a **60%** decrease in the appearance of the fine lines around her eyes, as well as the appearance of wrinkles on her forehead.³

Another patient appeared at a dermatologist's office with rough skin, dark blotchiness, and severely increased pigmentation caused by excessive sun exposure and prior pregnancies. She received a trial sample of an exfoliating product containing amber crystals. Upon her return to the physician's office after one week of using the product, there was a **50%** improvement in the roughness of the patient's skin. There was also more than **30%** improvement in the dark, blotchy



What You Need to Know

The Exfoliating Power of Amber Crystals

- A non-surgical exfoliation procedure called microdermabrasion ranks among the most popular cosmetic procedures in the US.
- Its high cost, along with significant health risks it poses in a number of cases, makes this effective anti-aging skin therapy an unattractive option for many people.
- A cutting-edge topical alternative has been identified that effectively revitalizes damaged, aging skin at a fraction of the cost.
- Its potent rejuvenating effects arise from the unique properties of amber crystals.
- Amber is a semi-solid organic substance naturally secreted by plants in response to physical injury or extreme climate changes.
- In dermatologist test cases, a topical application containing amber crystals yielded as much as **75%** improvement in the health and appearance of damaged, aging skin.

areas and hyperpigmentation. After six weeks of using the product, the patient demonstrated more than **70%** improvement in the roughness of her skin and more than **50%** improvement in the blotchy areas and pigmentation previously observed.³

A third patient consulted a dermatologist regarding her severe sun damage, wrinkles around the eyes, deep creases on the forehead, and rough, tired-looking skin. These concerns were attributed to excessive environmental stresses, regular outdoor activities, and a past history of smoking. She received a trial of an exfoliating product containing amber crystals. After one week of using the product, she returned to the doctor's office. The physician noted over a **50%** improvement in the roughness of the patient's skin and dull complexion. After four weeks of using the product, there was more than **75%** improvement of the appearance of fine lines and wrinkles around the eye area, as well as a more than **60%** improvement of the deep creases of the forehead. There was also more than a **70%** improvement of the sun-damaged areas, leading to a much healthier appearance of her skin.³

What Is Amber?

Amber is one of the few precious substances on earth that is not of mineral origin. Although considered a **gemstone**, amber is a completely organic compound derived from the fossilized resin of extinct trees. This resin is the semi-solid organic substance that is naturally secreted by the epithelial cells of a plant in response to physical injury or radical climate changes. In the dense forests (between 10 and 100 million years ago), countless resin-bearing trees fell and were carried by inland rivers to the sea. The trees and their resins eventually sank to the ocean floor and were covered by layers of sediment.

Tree resins are highly complex organic substances that include compounds called **terpenes**. Over time, some of these terpenes evaporated while others condensed and underwent a cross-linking process to form polymers. Over millions of years the resin gradually hardened to become amber. The exact structure and composition of amber varies according to the species of tree that produced the resin, the age of the amber, the environment in which it was deposited, and the geothermal forces to which it was subjected.

The richest deposit of amber in the world occurs near the eastern shores of the Baltic Sea. This **Baltic amber** comes from a layer of blue-green sand on the ocean floor that is between 26 and 34 million years old. Aptly nicknamed the **blue earth**, this sand contains high levels of a mineral known as **glauconite**, a silicate that is responsible for its unusual blue-green color.



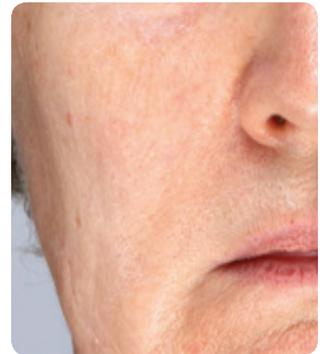
BEFORE



AFTER



BEFORE



AFTER



BEFORE



AFTER

PHOTOGRAPHS © LISA DAWN

How Amber Combats the Visible Effects of Aging

In 2002, a Russian physician named Nikolai Moshkov conducted clinical experiments on the natural ability of amber to improve cellular metabolism and stimulate renewal in unhealthy cells. Moshkov discovered that he could obtain rapid and significant improvement in disorders afflicting the head, spine, thyroid gland, chest, and limbs by rubbing the skin of the affected area with a fine powder of pure amber crystals. **The most visible and dramatic results he achieved were seen on the face.**⁴ The skin appeared younger, smoother, healthier, and much more radiant. This was attributed to the antioxidant, anti-inflammatory, and tissue-regenerative properties of amber.

Does Exfoliation Really Work?

The process of exfoliation is very much like peeling away the dry, outer skin of an onion to reveal the living layers beneath. Whether the exfoliation is done using mechanical abrasion or a controlled chemical reaction, removing dead and damaged skin cells on the surface allows the fresh new skin underneath to become visible.

This newly exposed layer of skin feels perceptibly softer and smoother. Its surface reflects light better, making fine lines and other small imperfections harder to see. Age spots and other areas of unwanted pigmentation are less noticeable because the dead skin cells containing the pigment have been removed. Exfoliation unplugs clogged pores and allows for the release of natural skin oils.

Regular exfoliation also helps to maintain open pores, decreases pore size, and minimizes many types of superficial scarring. In addition, removing the top layer of dead and damaged cells allows health-promoting agents such as moisturizers, antioxidants, and collagen-boosting ingredients to better penetrate the skin and work more effectively.

Rejuvenating the skin by superficially removing its outer layers is a practice that goes back thousands of years. Egyptian women used rough pumice stones and abrasive powder to reduce scarring and reverse the signs of aging. Wealthy noblewomen in ancient Egypt bathed in sour milk or rubbed fermented grape skins from the bottom of wine vats on their faces, using naturally occurring biochemicals to enhance their beauty.⁵ Age-defying remedies such as these were the origin of modern day dermabrasion and chemical peels, which have not changed greatly over the years.



Summary

A non-surgical exfoliation procedure called **microdermabrasion** ranks among the most popular cosmetic procedures in the US. Unfortunately, its high cost—and the very real health risks it poses in a number of cases—render this otherwise effective anti-aging skin therapy an unattractive option for many people.

A cutting-edge topical alternative has been identified that effectively revitalizes skin at a fraction of the cost. Its potent rejuvenating effects arise from the unique properties of amber crystals. Amber is a semi-solid organic substance naturally secreted by plants in response to physical injury or extreme climate changes. In dermatologist test cases, a topical application containing amber crystals yielded as much as **75%** improvement in the health and appearance of damaged, aging skin. ●

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

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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

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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.



Advanced Exfoliant Formula!

Unlock the Skin Renewal Power of Amber Crystals

If **exfoliation** isn't a regular part of your skin care regimen, it should be. Your skin's dead, hardened outer layer not only *worsens* the appearance of wrinkles, age spots, scars, and blemishes—it *also* gradually destroys skin health, clogging pores and preventing the release of natural oils that normally preserve natural softness and luster as you age.

That's why **microdermabrasion** is one of today's most popular non-surgical exfoliation procedures. Under the supervision of a certified dermatologist, a spray of micro-fine crystals continuously removed by vacuum scours away dead skin cells and restores your skin's youthful glow.

Unfortunately, the outlandish cost for **medically safe** results causes microdermabrasion to be impractical for budget-conscious individuals. And if you're pregnant or breastfeeding, or suffer from a variety of health conditions including acne, rosacea, eczema, psoriasis, or diabetes, microdermabrasion poses significant risks. Even healthy individuals may suffer infections from **improperly sanitized equipment**.

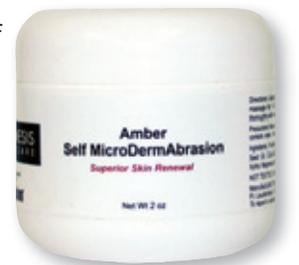
The solution is a low-cost, at-home alternative called **Amber Self MicroDermAbrasion**.

This cutting-edge exfoliant formula features ultra-fine **amber crystals**. A precious organic substance, **amber** derives from fossilized resins that trees release to heal themselves after physical injury and environmental stress. Amber is rich in compounds that form a basic building block for nearly all living organisms.

Amber Self MicroDermAbrasion puts these unique properties to work for you, gently removing dead skin cells and smoothing away unsightly wrinkles, lines, and other cosmetic imperfections. In dermatologist test cases, it has been shown to improve the appearance of aging skin by as much as **75%**. It's also safe for daily use.

Now you can enjoy these beautifying, age-defying effects at home, at a fraction of the cost of microdermabrasion or other costly exfoliation procedures.

A 2 oz jar of **Amber Self MicroDermAbrasion** retails for \$49. If a member buys two jars, the price is just **\$31.50** per jar.



Item #80139



To order **Amber Self MicroDermAbrasion** call 1-800-544-4440 or visit www.LifeExtension.com

The New Germ Warfare

How Probiotic Lozenges Improve Oral Hygiene and Systemic Health

The human mouth is teeming with bacteria. Brushing, flossing, and traditional dental care often aren't enough to escape the health risks of too much of the *wrong* kind of bacteria found floating around the human mouth. With oral probiotics, we may be able to prevent or at least control the growth of the dangerous organisms where they originate.

Advanced Oral Hygiene is a new oral probiotic that provides the *beneficial* bacteria that can help block harmful bacteria that first develop in the mouth. This sophisticated oral probiotic therapy allows the healthy and naturally occurring organisms found in the body to out-compete the harmful bacteria.¹⁻³

Multiple Health Benefits

Advanced Oral Hygiene contains BLIS K12™ and *Bacillus coagulans*, a unique blend of two oral probiotics, which aim to triumph over many of the chronic threats to our health caused by oral microbes that may pose harm to the body. BLIS K12™ (*Streptococcus salivarius*) and *Bacillus coagulans* (GanedenBC³⁰®) organisms naturally survive in human tissue, maximizing their health-promoting potential and providing help with the regulation of inflammation and cell destruction caused by the dangerous germs that originate in the mouth.

Regular use of **Advanced Oral Hygiene** could make a significant impact in protecting oral health,¹⁻³ which in turn can strengthen the immune system, ease inflammation, and help the body maintain good health.^{4,5}

Poor Oral Health is Associated With Risk Factors Throughout the Entire Body

Inflammation in the mouth can translate to poor health in other parts of the body. Traditionally, poor mouth conditions have a tendency to become chronic, producing a steady elevation of inflammation in other parts of the body that receive high blood flow—thereby “seeding” the entire system with circulating “cytokines.” These cytokines, or “chemical messengers,” produce inflammatory responses in tissues far distant from the mouth and affect cellular behavior critical to the immune system’s defense. When cytokine levels continue to increase—the occurrence of even more acute inflammation can also increase.

Advanced Oral Hygiene can offer relief and modulate the body’s inflammatory response, making these “good” microorganisms found in the BLIS K12™ and GanedenBC³⁰® strain the ideal candidates for easing inflammatory conditions in the body.⁵

Live Life Longer and Healthier

In combination with a rigorous oral hygiene regime, **Advanced Oral Hygiene** provides the body with beneficial bacteria to naturally help protect the immune system and prevent harmful bacteria from colonizing throughout the body.

A bottle containing **60** mint lozenges of **Advanced Oral Hygiene** retails for \$20. If a member buys four bottles, the cost is only **\$13.50 per bottle**.

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GanedenBC³⁰® is a registered trademark of Ganeden Biotech, Inc.
BLIS K12™ is a licensed trademark of Frutarom, Ltd.



Item #01300

To order **Advanced Oral Hygiene**
call **1-800-544-4440** or
visit **www.LifeExtension.com**

Contains milk, corn, and yeast.

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.



TAP THE POWER OF N-Acetyl-L-Cysteine

For more than **forty years**, the antioxidant compound **N-acetyl-L-cysteine** or NAC has been recognized for its role in supporting bronchial and respiratory health.¹⁻¹⁰ Today, a *burst* of renewed scientific interest has yielded fresh insights into its role in supporting overall health.

At the core of N-acetyl-L-cysteine's power is its ability to support healthy cellular levels of **glutathione** (GSH), a nutrient utilized by all cells for protection against free radical damage and insults from foreign compounds.

N-acetyl-L-cysteine directly contributes to glutathione production and stimulates enzymes involved in maintaining glutathione, providing critical energy and support for cell function across multiple systems of the body.

Over **thirty** placebo-controlled clinical trials involving cellular glutathione have indicated beneficial effects of oral **N-acetyl-L-cysteine** on health, quality of life, and well-being.¹¹

Aside from its role in glutathione synthesis, N-acetyl-L-cysteine serves as a highly *bioavailable* nutrient in its own right. Upon ingestion, it is readily absorbed and promotes direct cellular protection throughout the body via multiple physiological pathways.¹²⁻²¹ It provides immune support,⁵⁻⁸ helps liver cells to efficiently metabolize lipids and neutralize free radicals,²² and has been shown to supply nutritional support to neurons in the presence of oxidative stress.²³

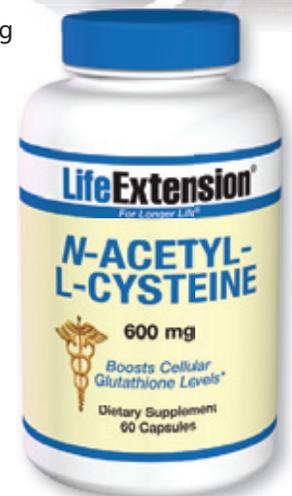
Individuals seeking support for system-wide health with **Life Extension® N-Acetyl-L-Cysteine** may choose to ingest between **600-1,800 mg per day**.

The retail price for a bottle containing **60 600 mg capsules of N-Acetyl-L-Cysteine** is \$14. If a member buys four bottles, the price is reduced to just **\$10.13** per bottle.

Caution: Those who supplement with NAC should drink six to eight glasses of water daily in order to prevent cysteine renal stones. Cysteine renal stones are rare but do occur.

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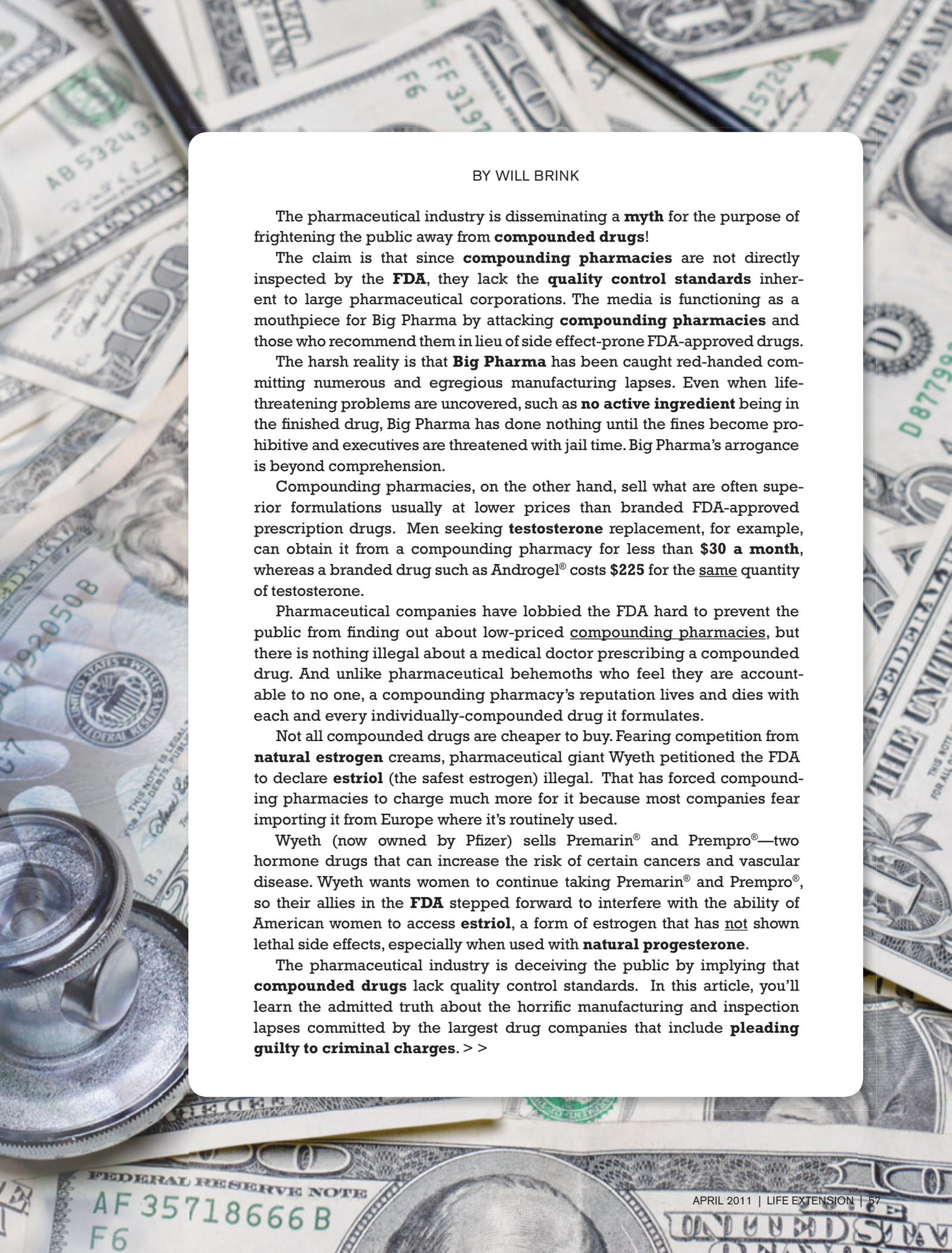
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To order **N-Acetyl-L-Cysteine**,
call **1-800-544-4440**
or visit **www.LifeExtension.com**



***The Emperor
Has No Clothes...***

**Quality Lapses at
Big Pharma Unveiled**

The background of the page is a collage of US dollar bills and a stethoscope. The bills are scattered, with some showing serial numbers like 'AB 53243', 'FF 3197', '4792050 B', and 'AF 35718666 B'. A stethoscope is visible in the bottom left corner, partially overlapping the bills. The text is contained within a white rounded rectangle in the center of the page.

BY WILL BRINK

The pharmaceutical industry is disseminating a **myth** for the purpose of frightening the public away from **compounded drugs**!

The claim is that since **compounding pharmacies** are not directly inspected by the **FDA**, they lack the **quality control standards** inherent to large pharmaceutical corporations. The media is functioning as a mouthpiece for Big Pharma by attacking **compounding pharmacies** and those who recommend them in lieu of side effect-prone FDA-approved drugs.

The harsh reality is that **Big Pharma** has been caught red-handed committing numerous and egregious manufacturing lapses. Even when life-threatening problems are uncovered, such as **no active ingredient** being in the finished drug, Big Pharma has done nothing until the fines become prohibitive and executives are threatened with jail time. Big Pharma's arrogance is beyond comprehension.

Compounding pharmacies, on the other hand, sell what are often superior formulations usually at lower prices than branded FDA-approved prescription drugs. Men seeking **testosterone** replacement, for example, can obtain it from a compounding pharmacy for less than **\$30 a month**, whereas a branded drug such as Androgel[®] costs **\$225** for the same quantity of testosterone.

Pharmaceutical companies have lobbied the FDA hard to prevent the public from finding out about low-priced compounding pharmacies, but there is nothing illegal about a medical doctor prescribing a compounded drug. And unlike pharmaceutical behemoths who feel they are accountable to no one, a compounding pharmacy's reputation lives and dies with each and every individually-compounded drug it formulates.

Not all compounded drugs are cheaper to buy. Fearing competition from **natural estrogen** creams, pharmaceutical giant Wyeth petitioned the FDA to declare **estriol** (the safest estrogen) illegal. That has forced compounding pharmacies to charge much more for it because most companies fear importing it from Europe where it's routinely used.

Wyeth (now owned by Pfizer) sells Premarin[®] and Prempro[®]—two hormone drugs that can increase the risk of certain cancers and vascular disease. Wyeth wants women to continue taking Premarin[®] and Prempro[®], so their allies in the **FDA** stepped forward to interfere with the ability of American women to access **estriol**, a form of estrogen that has not shown lethal side effects, especially when used with **natural progesterone**.

The pharmaceutical industry is deceiving the public by implying that **compounded drugs** lack quality control standards. In this article, you'll learn the admitted truth about the horrific manufacturing and inspection lapses committed by the largest drug companies that include **pleading guilty to criminal charges**. > >

You may have read about some obscene quality lapses at Big Pharma manufacturing facilities, but these reports disappear from the headlines within a day or two.

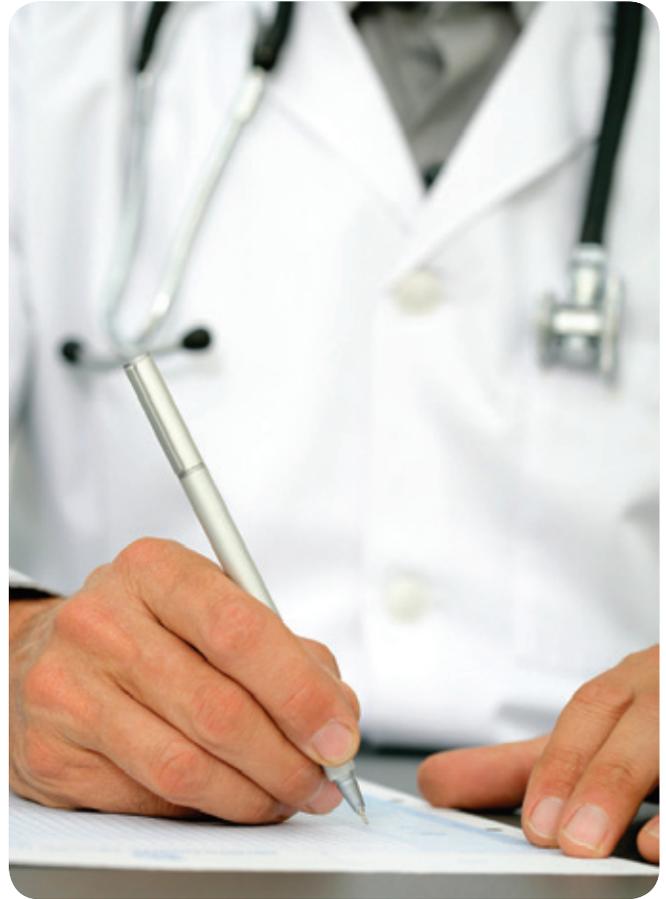
These quality lapses are particularly egregious because the profits earned on OTC and prescription drugs are so enormous. The active ingredient usually costs virtually nothing, meaning manufacturing the drug is the only significant expense. Yet even in the area of good manufacturing practices (GMP) that many dietary supplement companies strictly adhere to, large pharmaceutical companies have dropped the ball and exposed the public to dangerous products.

The purpose of this article is to memorialize some of these quality deficits so those who care to find the truth will learn that the most dangerously-made drugs emanate from an industry (Big Pharma) that enjoys some of the highest profit margins on the planet. These outlandish profits are courtesy of quasi-monopolistic protections granted by the federal government.

Ironically, while the federal government bestows numerous monopolistic benefits to Big Pharma, it also fines them when they repeatedly produce substandard drugs. What follows are examples of documented quality problems within the pharmaceutical industry:

- Just imagine not being able to breathe because of an acute asthma attack. You grab your FDA-approved asthma inhaler to open your bronchi, but nothing happens. You keep gasping for breath until you suffocate to death. The reason your asthma inhaler did not open your closed bronchi is because the manufacturer failed to put in the active ingredient (albuterol). At your funeral, people who were with you say you kept inhaling your drug, but it did not work. No one at your funeral would know that one of the leading drug manufacturers in the world (Schering-Plough) had repeatedly been caught failing to put the active ingredient into their asthma inhalers.¹ All the FDA initially did was issue a warning telling Schering to stop selling drugs with the active ingredient missing.

After Schering-Plough kept getting caught, they were finally fined **\$500 million** for repeatedly failing plant inspections. Inspectors found “*significant regulations violations related to facilities, manufacturing, quality assurance, equipment, laboratories and labeling.*”² It turned out Schering shipped out asthma inhalers that contained little or no active ingredient (albuterol) leading to perhaps as many as 17 deaths, according to the Public Citizen’s Health Research Group.³ (No one knows the actual number of deaths.) Several massive recalls were the result. According to the *New York Times*, “The FDA also set strict quality control terms on four Schering-Plough facilities in a consent decree...”



- If you or someone you love is suffering from Gaucher’s disease or Fabry disease, you would most likely be relying on two of Genzyme Corporation’s products for treatment. You would also be relying on that treatment to be free of adulterations.

In 2009, the FDA announced that Genzyme drugs were put into vials that were contaminated with particles of steel, rubber, or fiber.⁴ The contamination caused production on these drugs to be stopped, which meant patients would have to either have stockpiled prescriptions, search for alternative treatment methods, or forego treatment altogether. The drug shortage also limited the ability of researchers to conduct clinical trials. Genzyme Corp., “*under the consent decree of permanent injunction,*” agreed to correct manufacturing quality violations at one of its facilities and will return **\$175 million** in “*unlawful profits*” from the sale of products that were made at the plant.⁴ While the financial penalty may force the company to alter its ways, that is hardly an acceptable conclusion for the patients who went without their prescriptions solely because of Genzyme’s misdeeds. According to a survey of 1,800 doctors released by the Institute for Safe Medical Practices, the shortages led to patients dying for want of the preferred drug therapy.⁵

- Adults being poisoned by drug manufacturers with warehouse debris is one thing, but you'd think that when it comes to products for infants, drug companies would take extra precautions. Unfortunately, you'd be wrong. Abbott Laboratories' recent recall of Similac® infant formula proves just that.

If you have an infant, you trust that the formula you feed your child is of the highest quality. If after feeding your child, you notice that they are experiencing severe stomachaches, would it even cross your mind that your child is suffering because there were *insect parts* in his or her formula? For most of us, that thought would be unthinkable, but it happened!

Abbott recently recalled 5 million cans of Similac® infant formula that possibly contained either common beetles or their larvae.⁶ The FDA said the insects pose no immediate health risk, however they acknowledged that there is a possibility that infants who consume formula containing the beetles or their larvae could experience symptoms of gastrointestinal discomfort and refusal to eat as a result of small insect parts irritating the GI tract. It is remarkable that the FDA considers a child refusing to eat because insect legs are stuck in its small intestine to be no immediate health risk. This is a case of the FDA grossly understating a problem to cover for a major company.

- Due to their compromised immune systems, chemotherapy patients have to be treated with the utmost care. With low white cell counts, low platelet counts, and an overall weakened state of health, the drugs they take to either combat cancer or fight the insidious effects of the chemo itself need to be of the utmost integrity. Imagine being a cancer patient in the fight of your life against a horrific cancer. Suddenly, uncontrollable swelling of your blood vessels causes you to be in severe pain and discomfort. Your physician checks and rechecks your drug bags, your vital signs, and your blood. Time and again they come up clueless as to what is the cause of this new trauma to your body. If you are lucky enough to survive the event, you will eventually see a press release from Amgen and Novartis recalling their intravenous drugs for the presence of glass flakes supposedly caused by a breakdown of materials in the stored vials.⁷ According to Reuters News Service, the company "*initiated a voluntary recall of 24 lots of its methotrexate injection, a common chemotherapy drug, in the United States, due to the presence of small glass flakes that could result in adverse events. One of the manufacturers said the **adverse events include damage to blood vessels, swelling, and possibly death.***" Methotrexate is used in the treatment of neoplastic diseases (cancer), severe psoriasis, and rheumatoid arthritis, including some types of juvenile rheumatoid arthritis.

Quality Lapses at Big Pharma

- The pharmaceutical industry claims that compounded drugs are not safe or effective because they are not directly inspected by the FDA, as prescription drugs are.
- Compounding pharmacies often sell superior formulations at better prices, compared to prescription drugs.
- Compounding pharmacies must maintain high quality standards because they rely on their reputations to stay in business.
- Big Pharma has committed numerous egregious mistakes in maintaining quality control.
- For example, Schering-Plough was repeatedly caught failing to put the active ingredient in prescription medications, such as asthma inhalers. They were finally fined \$500 million for failing plant inspections.
- In 2009, the FDA announced that Genzyme drugs were put in contaminated vials, which led to interrupted drug production and medication shortages.
- Abbott Laboratories recently recalled 5 million cans of Similac® infant formula due to contamination with insects or larvae.
- Other pharmaceutical companies that have recalled products due to contamination and other quality control issues include Novartis, Amgen, Johnson & Johnson, and GlaxoSmith-Kline.



- For many, there is no more trusted name in the pharmaceutical field than Johnson & Johnson (J&J). That trust has been built from generation to generation, and Americans purchase J&J products with that trust in mind. Implied in that trust is the belief that not only are J&J products of the best quality, but they are also manufactured under the best conditions. Once again, the public's trust has been misplaced.

J&J had to recall nearly 200 million bottles of various over-the-counter drugs.⁸ According to a Reuters Report (Tue., May 4th, 2010) “...inspectors found thick dust and grime covering certain equipment, a hole in the ceiling and duct tape-covered pipes at the Fort Washington, Pennsylvania, facility that made 40 products...” with “...raw ingredients contaminated by an unspecified bacteria, a lack of quality control procedures and poor handling of complaints, according to the report dated April 30.”

It was so bad, the FDA “...urged consumers to stop using liquid Tylenol®, Motrin®, Benadryl®, and Zyrtec® for children and infants after a broad recall,” recommending people use generics instead. The company has suspended production at the plant.



The bond between American consumers and J&J has clearly been broken, but what about the responsibility the FDA bears as the chief regulator of J&J's factories? The FDA's primary purpose is supposed to be to protect the consumer, but instead, it protects the profits of big medical companies and let the factories of one of America's largest drug producers go unmonitored for too long while consumers suffered.

- Lipitor® is one of the most profitable drugs of all time. Consumers have seen endless advertisements for its ability to lower total cholesterol and LDL. Recently, Pfizer recalled certain bottles of Lipitor® due to reports of “an uncharacteristic odor.” According to Pfizer, the company “is working closely with the bottle supplier to determine the cause of the odor problem and to rapidly address it.”⁹ The company advises, for those who “...experience an uncharacteristic odor associated with your medication, please return the tablets to your pharmacist.” Pfizer claims the product is still safe to use, stating “medical assessment has determined the odor is not likely to cause adverse health consequences in patients...”

Egregious Quality Lapses

If what you have read so far does not shock you, the following recent case involving GlaxoSmithKline will leave consumers wondering if any drugs are truly safe out there.

In fact, the quality control deficiencies at Glaxo were so egregious that they were highlighted in a recent *60 Minutes* report titled “Bad Medicine.”¹⁰ The report focused on the atrocious manufacturing lapses at a plant operated by GlaxoSmithKline subsidiary SB Pharmco Puerto Rico, which was at the center of last year's **\$750 million** health fraud case the company settled.

A former global quality assurance manager for GlaxoSmithKline, for the first time on camera, offered details on what she saw at the Cidra, Puerto Rico, plant. At the facility, GlaxoSmithKline manufactured Kytril®, an anti-nausea medication; Bactroban®, a topical anti-infection skin ointment; Paxil CR®, a form of the antidepressant drug Paxil®; and Avandamet®, which is used to treat type 2 diabetes. These and other drugs were produced for sale in the United States.

60 Minutes reported on how the water used to make tablets was tainted with bacteria and about how failures on production lines had made some drugs too strong, and others not strong enough.

Of all the manufacturing lapses cited, the most alarming were the mix-ups that led to drugs being

Big Pharma has become so arrogant with their enormous riches that they have shoved manufacturing quality control to the bottom rung of their priorities.

filled in the wrong bottles. The mix-ups ultimately led to patients receiving and taking medicines that were either higher doses than prescribed or used to treat an entirely different condition.

Examples of these mix-ups were Avandia® diabetes pills mixed in packages with over-the-counter Tagamet® antacids, and Paxil® antidepressants being mixed with the Avandia® diabetes drug. (Avandia® was later pulled from the market because it is too dangerous to take even when properly made.)

The *60 Minutes* report featured a response from a senior vice president from Glaxo headquarters in London, who said the company regrets what happened in Puerto Rico and that the company spends \$600 million to ensure “plant and equipment is state of the art.”

In a statement released after the *60 Minutes* story aired, GlaxoSmithKline insisted patients weren't hurt by the problems at the Cidra plant, and that the company had been working to improve the plant's performance as early as 2001.

As of this writing, the investigation is ongoing and additional civil and criminal charges may still be handed down. Many drugs sold in America are manufactured in Puerto Rico because of favorable tax status.

Media Bias Often Misleads Consumers

The media has a propensity to falsely claim that consumers cannot trust compounding pharmacies because they are not subject to the same rigorous standards as large pharmaceutical companies. The reality is that Big Pharma has become so arrogant with their enormous riches that they have shoved manufacturing quality control to the bottom rung of their priorities.

Readers should be aware the examples cited in this article are not an exhaustive list of failures of quality control by the pharmaceutical industry. These hideous patterns of misconduct eliminate any standing the pharmaceutical industry (and its skills in the media) has in attempting to scare the public away from the use of compounded medications.



Pharmaceutical Industry's Double Standard

The pharmaceutical industry often claims that quality issues are rare and anomalies. A search at the www.FDA.gov website and some Internet searching, however, shows that's not the case, and it is growing worse. Drug makers have put quality control on the low-priority list as they attempt to increase their profits through extensive cost-cutting.

The pharmaceutical industry has quite a double standard for itself. When people look to compounding pharmacies in an attempt to avoid the outrageous profit margins from various brand-name drugs, pharmaceutical companies claim compounding pharmacies are less safe due to lacking FDA-mandated quality control standards, yet these very companies often fail to adhere to acceptable manufacturing standards. It is the drug companies themselves that are pleading guilty to criminal charges of failing to follow good manufacturing practices (GMP) and knowingly putting lives in danger.

Conclusion

Although the FDA appears to have stepped up enforcement of QC issues found in the pharmaceutical industry, the FDA and the pharmaceutical industry have a complex, often nepotistic relationship. For example, according to Dr. Marcia Angell, former editor of the *New England Journal of Medicine* and author of *The Truth About the Drug Companies*, “*The FDA reviews drugs for safety and effectiveness before they are allowed on the market, but drug companies pay large ‘user fees’ in return for quick reviews. That means the agency is beholden to the industry it is supposed to regulate.*”

The pharmaceutical industry enjoys astounding profits and profit margins, and pays a king’s ransom in lobbying efforts and direct-to-consumer advertising in an attempt to maintain their monopoly. They accuse compounding pharmacies of failing to do what they themselves have ignored: paying attention to quality control and stringent manufacturing practices.

The American public should not be deceived by Big Pharma’s propaganda campaign to discredit those who strictly adhere to good manufacturing practices, as it is Big Pharma’s blatant disregard for safety that consumers should fear. ●

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

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University of California Researchers **Restore Immune Function in Aging Human Cells**

An analog of a previously banned drug may have yielded a significant age-reversal *breakthrough*.

Aging of the immune system, known as *immunosenescence*, plays a central role in the overall degeneration of the human body. (See article in this issue on page 76.)

Scientists at the University of California San Francisco and the National Institute on Aging¹ have successfully *reversed* age-related deterioration in immune cell function using **lenalidomide**, a relative of the infamous drug *thalidomide*.

In older humans, decreased generation of cell signaling molecules like *interferon-gamma* (IFN-gamma) by white blood cells reduces the ability of the aging immune system to kill intracellular microbes and eliminate cancer cells.²

Lenalidomide provides intriguing immune-boosting properties, including an increase in production of cell signaling molecules that mobilize vital immune system cells like T-helper white blood cells and natural killer cells. In fact, recent scientific data shows that lenalidomide helps to normalize output of critical immune signaling molecules like interferon-gamma and IL-2, known to be reduced in white blood cells taken from individuals **65 and older**.¹

Even more remarkable, these effects were observed at exceedingly low doses. This study has huge implications. We need normally functioning immune cells to fend off cancer and infection as we mature—precisely the kinds of conditions to which many people succumb as they and their immune systems decline with aging.

In this article, the results of this groundbreaking study are detailed. You will also learn how these findings relate to your immune system's health and function. > >

New Benefits from an Old Drug

In the late 1950s and early '60s, thousands of children suffered severe birth defects after their mothers took thalidomide, a sedative then used to prevent nausea in pregnancy.³ That catastrophe led to the complete withdrawal of the drug from the market worldwide and stifled research investigation into beneficial immune-boosting properties of the drug over the following thirty years. At the start of the new millennium, however, scientific interest was reawakened as scientists studied thalidomide's impact on the immune system in certain skin conditions.⁴

Given the teratogenic effects (i.e., birth defects) caused by thalidomide, new research began to focus upon "second-generation" drugs.⁵ As a result, lenalidomide has significantly changed the management of diseases such as multiple myeloma, myelodysplastic syndrome, and some leukemias, all of which arise from disruptions of the T- and B-cell command and control system.⁵⁻¹⁰ The drug is now also finding a role in management of certain challenging solid tumors such as those of the kidney and lung.¹¹⁻¹⁴

Lenalidomide directly kills cancer cells and limits tumor growth.^{8,15-17} It is the drug's immunomodulatory potential, however, that attracted the attention of the UCSF researchers.¹

Lenalidomide specifically stimulates T-helper and natural killer cells, in large part by promoting production of cytokine IL-2.⁶ Research clearly indicates that aging is associated with reduced levels of both IL-2 and the IL-2 receptor on cell surfaces. For example, comparison of white blood cells from younger donors (less than 40 years of age) with older donors (greater than 60 years of age) shows reduced levels of both IL-2 and the IL-2 receptor.¹⁸

IL-2 helps T-helper and natural killer cells against invading infectious agents such as bacteria and viruses. Lenalidomide also inhibits T-suppressor cells that prematurely shut down immune function, thus allowing cytotoxic and natural killer cells to exert their beneficial effects against cancer cells.¹⁴ Lenalidomide has potent immunomodulatory effects upon inflammation.^{16,19} For example, lenalidomide inhibits production of pro-inflammatory cytokines like TNF-alpha, IL-1, IL-6, and IL-12 and elevates the production of the anti-inflammatory cytokine IL-10 from human white blood cells.²⁰

What does all this have to do with aging? Plenty, when we remember that immunosenescence involves decreases in the very T-cell numbers and functions that lenalidomide enhances. That's what led Dr. Edward J. Goetzl and his team at UCSF to explore lenalidomide for the first time as an anti-immunosenescence drug.

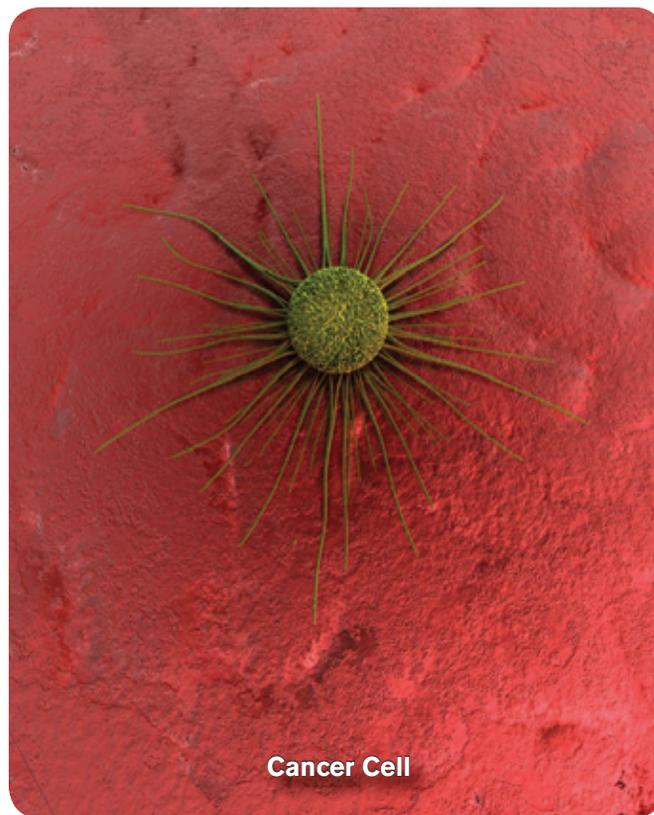
The UCSF Study of Lenalidomide and Aging

Dr. Goetzl is a world-renowned expert in human aging and an immunologist. When Dr. Goetzl and his team explored the benefits of lenalidomide on cancer, it led to their breakthrough work demonstrating lenalidomide's astonishing effects on immunosenescent cells.¹

The team obtained T-cells from a group of healthy young adults aged 21-40 years, and also from adults 65 years and older. They stimulated the T-cells to mimic an infection or invader, using standard laboratory techniques. Next, they incubated the stimulated cells with lenalidomide, keeping some stimulated T-cells untreated as controls. Finally, they measured a host of T-cell functions along with other factors.¹

The results from their study may change the direction of treatment for the aging immune system.

Lenalidomide-treated T-cells from young subjects increased their IL-2 production **17-fold**, and that of IFN-gamma 3-fold, a remarkable increase. However, the same concentrations of lenalidomide, used to treat T-cells from the older subjects, produced an astonishing **120-fold increase** in IL-2, and a 6-fold increase in IFN-gamma. What these results mean is that lenalidomide *restores* and sustains levels of the very cells and cytokines that otherwise diminish with aging.



Cancer Cell



That's not all. Lenalidomide increased production of helper T-cells from older subjects, and suppressed the apoptosis to which older people's T-cells are especially vulnerable.¹ Furthermore, it restored T-cells' ability to move toward a chemical stimulus to levels indistinguishable from that of younger subjects' cells.¹ Finally, lenalidomide treatment reduced production of the pro-inflammatory cytokine TNF-alpha from other immune cells called macrophages.

Cancer treatment regimens use doses as high as 50 mg/day for several weeks at a time.⁷ But the dosing of lenalidomide used in the UCSF study were estimated to be equivalent to those attainable by oral doses of just 1-3 mg, and they produced their beneficial effects for up to 5 days after a single treatment.¹

Acknowledging the astounding results of lenalidomide treatment at such tiny doses, Dr. Goetzl recently said, "If you could take a low-dosage pill with no side effects, wouldn't you do it?"²¹

The team has big plans for next steps. Concluding the report of this first study, they write, "Future testing of low-dose lenalidomide will focus on its potential roles in improving diverse aspects of immunity in the elderly population, ranging from the effectiveness of vaccines to host defenses against microbial infections to resistance to cancers."¹

UCSF Scientists Restore Immune Function in Aging Human Cells

- Older adults have increased susceptibility to infections and cancers compared with younger people.
- That increased vulnerability is the result of age-related degradation of the human immune system's function in the process known as immunosenescence.
- Immunosenescence produces decreased responsiveness of vital immune cells called T-cells, which hold the reins of the command-and-control system governing human immunity.
- As T-cell function declines, levels of important protective cytokines plummet, resulting in further T-cell dysfunction and impaired immune responses to microbes and cancerous cells.
- A drug called lenalidomide, originally developed for use in cancer treatment, has remarkable abilities to reverse many components of T-cell-related immunosenescence.
- A recent study dramatically proved that lenalidomide increases key cell-signaling molecules in older adults' white blood cells by as much as 120-fold, and it can restore certain T-cell functions to levels very similar with those of healthy young adults.
- Although lenalidomide is chemically related to thalidomide, it has fewer toxic side effects even at chemotherapy doses; the recent study used substantially lower concentrations of the drug, equivalent to small oral doses.
- Lenalidomide is expected to change the way we think of immunosenescence, relegating it to the level of a treatable consequence, not an inevitable cause, of aging.

The Implications

So how might low-dose lenalidomide help the aging immune system?

The answer is it may help restore cell signaling of the aging immune system to the level of a healthy young adult. For example, young people get cancer at a small fraction of the rates of older adults. One reason is the steady patrolling of the young person's body by a healthy, vigorous immune system. The youthful immune system "looks for" aberrant, potentially cancerous cells and destroys them before they can pro-

liferate out of control. As another example, infection from influenza ("the flu") and bacterial pneumonia can be quite dangerous in the elderly, while younger individuals suffer from far less mortality from these types of infectious diseases. An important reason for this difference is the vigorous response of the youthful immune system toward invading microbes in contrast to the sluggish response of the aging immune system.

However, more work needs to be done to better understand lenalidomide's effects upon the immune system before widespread use for immunosenescence treatment in aging humans.

Understanding the Immune System

The human immune system tirelessly protects us against microscopic invaders. Without it, we rapidly succumb to otherwise innocuous agents such as viruses, bacteria, and fungi, and develop cancerous cells as well.²² While most young adults have a robust immune system, the picture darkens after that, as the immune system begins a gradual and apparently inevitable decline.^{22,23} As a result of this system-wide degradation, older adults grow increasingly vulnerable to new infections and autopsy studies confirm infection as a major cause of death in the very old.²² Older people are also subject to recurrence of former infections, to development of cancers, and to autoimmune diseases and inflammation.²³⁻²⁵ Together these changes are known as "immunosenescence," the aging of immunity.²³ During the process of immunosenescence, which begins as early as age 60, virtually every element of the immune system becomes impaired.^{1,23,26,27} Many experts believe immune function over the course of your life is a core determinant of longevity.^{24,28}

Human immunity involves a complex system of interacting components, including cells known as macrophages, dendritic cells, natural killer (NK) cells, and the B- and T-cells.¹ B-cells produce the antibodies that identify and neutralize invaders. T-cells, on the other hand, interact with the other elements of the system to communicate threats and coordinate response. Some T-cells are also directly involved in attacking and destroying virally infected cells and those with cancerous characteristics.

As we age, T-cell function decreases in various key areas. Vital T-cell receptor (TCR) proteins lose their ability to connect to antigen-presenting cells.²⁹ Helper T-cells produce less of the IL-2 and IFN-gamma cyto-

kines they use to communicate to other immune cells about invaders.^{30,31} They also become less responsive to cytokines themselves, failing to reproduce in response to signals from other cells.^{31,32}

Even the number of new recruits (the so-called "naïve" T-cells) drops, preventing the immune system from fielding fresh troops.^{24,33} In addition, T-cells of older individuals are at high risk for the cellular suicide known as apoptosis, further diminishing the system's readiness.²² Scientists theorize that it is the multimodal decline of our immune system that results in a decreased life span.³⁴

The number of "memory" T-cells, critical for responding to new exposure to known infections, also diminishes with age, which accounts for the reduced response to vaccines in older adults.²⁴ And the assassins of the T-cell world, natural killer (NK) cells, also struggle to identify and destroy viruses and incipient cancer cells.

Some of the most profound effects of immunosenescence involve regulatory T-suppressor cells, however, which increase in number and activity.^{1,35,36} This results in reduced function of the rest of the T-cell-mediated immune response. Ultimately, predominance of these regulatory suppressor cells impairs our response to new infections, promotes reactivation of chronic infections (such as painful shingles), and increases our vulnerability to many cancers.³⁷

For all of these reasons, then, scientists are profoundly interested in identifying means of reversing the changes brought on by immunosenescence and restoring immune responses to a more youthful profile. Lenalidomide is literally changing the rules of the game through its remarkable abilities to do just that.

For example, low-dose lenalidomide seemed to have different effects upon IL-17 in younger vs. older human test subjects' white blood cells.¹ The implications are that low-dose lenalidomide in older subjects would not be expected to impair recruitment of neutrophils (a type of white blood cell), nor increase the risk of immune system attacking healthy tissues (autoimmunity) through excessive mobilization and activation of T-helper cells and related subsets of T-effector cells. Clearly, more work needs to be done to understand the benefits and limitations of low-dose lenalidomide on the aging immune system in humans.

The concept of immunosenescence explains why the aging immune system gradually weakens and leaves us vulnerable. Lenalidomide in low doses appears to hold promise for restoring the aging immune system to more youthful, vibrant function.

Summary

The progressive deterioration of the immune system with age, known as immunosenescence, has long been assumed to be inevitable. It underlies the cause of death in the majority of older adults, especially the very old, who succumb to infections and cancers that a vigorous, healthy immune system can resist. Thanks to the work of Dr. Edward J. Goetzl and his devoted team of scientists, however, **immunosenescence** may soon take its place among the growing list of treatable consequences of aging. Their work with lenalidomide demonstrates the potential power of immunomodulation using tiny doses of a drug. Their recent study suggests that lenalidomide can boost age-related impairments in the all-important T-helper and natural killer cell populations, while tamping down the activity of T-regulatory cells that would otherwise suppress immune function. Astonishingly, low-dose lenalidomide can restore some T-cell functions to levels identical with those of healthy young adults. Although more work needs to be done to fully understand the benefits and risks associated with low-dose lenalidomide, Dr. Goetzl's work holds great promise to usher in a new age of discovery and research sure to benefit older people with evidence of immunosenescence. ●

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



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Vitamin K2 (as menaquinone-4)	1000 mcg
Vitamin K1 (as phytonadione)	1000 mcg
Sesame lignans	20 mg
Lycopene	10 mg
Lutein	2 mg
Selenium (as Se-Methyl L-Selenocysteine)	67 mcg
Selenium (as L-Selenomethionine)	67 mcg
Selenium (as Sodium selenite)	67 mcg
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Vitamin C	90 mg
Ascorbyl palmitate	50 mg
Zinc	10 mg
Mixed tocopherols	359 mg

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If you suffer from persistent joint discomfort, the good news is that a natural enzyme has been shown to effectively support joint function.

Bromelain has been studied for its ability to soothe minor injuries such as sprains¹ and for treating sinus and nasal inflammation after surgery.² Bromelain is a concentrated extract derived from pineapple stems that contains natural enzymes that help maintain healthy **joint function**.

Sufferers of joint inflammation can benefit from exciting evidence that specially-coated bromelain-based formulations may significantly help inflammatory reactions in the joints.

IMPRESSIVE CLINICAL STUDIES

A number of head-to-head trials have been conducted in people with knee inflammation. Results demonstrated that enteric-coated **bromelain** formulations were at least as effective as other approaches in relieving joint tenderness and swelling and were better tolerated.³⁻⁵ One study even found that bromelain is *more* effective than conventional methods for maintaining joint function at rest (**41%** for **bromelain** versus **23%** for conventional methods).⁵

Another study showed that specially-coated **bromelain** yielded an overall improvement in general well-being, along with improvement in stiffness and physical function.⁶

The reason that bromelain has to be *enteric-coated* is that it will be used as a *digestive enzyme* if activated in the stomach. *Enteric-coated bromelain* tablets pass into the small intestine where they are *absorbed* into the bloodstream to provide systemic benefits.

A bottle of 60 **500 mg** tablets of **Specially (enteric)-Coated Bromelain Tablets** retails for \$21. If a member buys four bottles, the cost is only **\$14.25 per bottle**.

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Contains corn.



Item # 01203

To order Specially-Coated Bromelain 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.



Suspended Animation

The Company And The Goal

May 20-22, 2011,
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An Option For Radical Life Extension

Growing old is not much fun. Dying is even worse. Visionary scientists are working to reverse aging in humans. But what if they don't succeed soon enough for you? What if you're faced with death before the age reversal revolution occurs?

Here's what you can do to protect yourself against death: You can make arrangements to be cryopreserved and cared for until it's possible to revive you. In suspended animation, you can travel through time until it's possible to restore you to life, health, and youth.

If you don't think that will be possible...think again! Although today's methods of human cryopreservation are imperfect, they're still capable of preserving the ultrastructure of your brain. Damage from ischemia (lack of blood flow) can be prevented, the formation of damaging ice crystals can be avoided, and further damage can be stopped entirely by caring for you at -196 degrees Celsius. (-321 degrees Fahrenheit.). Finally, scientists are working to perfect human cryopreservation, and to develop medical nanorobots small enough to repair damage to your cells from within.

If all this interests you, it is imperative that you attend the Suspended Animation Conference in South Florida on May 20-22, 2011. The conference will provide you with a comprehensive picture of human cryopreservation. It will reveal the latest advances in cryopreservation research and the scientific basis for thinking that revival from cryopreservation is a realistic possibility. It will also give you the opportunity to meet and get to know the revolutionaries who are making it possible for you to have an unprecedented chance at a radically extended healthy lifespan in a future of unlimited potential.

Featured speakers

- ▶ Gregory M. Fahy, PhD, on reversible solid-state suspended animation in humans
- ▶ Ralph Merkle, PhD, on nanomedical technology for reviving cryopreserved patients
- ▶ Stephen Valentine, on Timeship, a futuristic new building for life extension research

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Innovative Strategy for Combating IMMUNOSENESCENCE

Age-related loss of immune function is called “immunosenescence,” a term first coined by Dr. Roy Walford, who was Emeritus Professor of Pathology and Laboratory Medicine at UCLA and formerly a member of the Life Extension® Medical Advisory Board. In his historic book, *The Immunologic Theory of Aging* (Munksgaard, 1969), Dr. Walford discusses in detail how a declining immune system is one of the major causes of systemic aging—including a growing risk for cancers, infections, and inflammatory conditions.¹

Researchers concerned with finding solutions to cure diseases often start with a look at the human immune system. Without the invisible wall of defense provided by a well-regulated immune system, we are susceptible to virtually every imaginable disease, from pneumonia to arthritis to diabetes.²⁻⁴ Even cancer and cardiovascular diseases are quick to take advantage of our weak spots—or over-activity—of normal immune function.^{5,6}

Infections and cancers arise when the immune system loses its normally intense surveillance.⁷ Cancer victims are particularly vulnerable to infections because both the disease and many of its therapies further weaken the immune system. Autoimmune disorders, on the other hand, occur when the natural restraints on immune reactivity fade, allowing an uncontrolled inflammatory response to take place.⁸ And that inflammatory response, in turn, can increase the risk of cancer.⁹

The good news is that if we can protect and even enhance the aging immune system, we may be able to substantially delay the pathological impact of aging itself.^{10,11} Scientists are constantly seeking out new methods of boosting immunity, through supplements, diet, exercise, sleep, and of course expensive medications that appeal to the pharmaceutical industry.

Interestingly, leading scientists have discovered how to provide natural immunological support using immune-protective proteins found in hens' eggs. This development promises to deliver substantial immune enhancement at a fraction of the cost of medications.¹² That's good news for all of us as we age—and great news for those whose immune systems are particularly vulnerable, such as cancer patients or those living with HIV/AIDS. > >

Creating the Hyperimmune Egg

Agricultural scientists long ago discovered that they could immunize hens against germs that threaten humans. This immunity was then passed on by the hen to her egg.¹³⁻¹⁵ Concentrated protein extracts from those so-called “hyperimmune eggs” confer remarkable levels of immunity to humans who consume them.^{16,17} Scientists have now been able to customize eggs to provide different types of immunity. At least 24 different organisms have been used to immunize a single hen, which then lays eggs that offer passive immunity to all of the organisms.¹⁴

Let’s now look at how hyperimmune egg extracts provide unique immune protection and reverse some of the deficits caused by age-related immunosenescence.

Managing Cholesterol

Atherosclerosis is another manifestation of immunosenescence, as decreased control over inflammation facilitates the formation of arterial plaques in a process often referred to as “inflamm-aging.”^{18,19} The US Army Research Institute of Environmental Medicine became interested in this process because of the shocking number of soldiers with elevated cho-

lesterol levels and decided to study the potential of hyperimmune egg extract to lower cardiovascular risk.²⁰

What they found was that soldiers who used a drink containing hyperimmune egg powder stabilized their cholesterol compared to the placebo group.²⁰ This was a fascinating finding, considering that eggs are often maligned as being the source of high cholesterol.

In the study, military personnel—sergeants major in the US Army with elevated total cholesterol (greater than 180 mg/dL)—participated in a 26-week double-blind, placebo-controlled study of a drink containing hyperimmune egg extract.²⁰ All subjects were physically fit people who also participated in a dietary education program to reduce fat and cholesterol intake. By the end of the trial, total cholesterol levels of placebo recipients had increased, while those in the supplemented group showed no change. Similarly, in placebo subjects, the ratio of total cholesterol to HDL increased (a bad finding), while again no change was observed in the supplemented group. These findings suggested to the researchers that “hyperimmune egg might beneficially modify the regulation of serum lipoprotein levels and thereby reduce the possibility of cardiovascular disease.”²⁰



Fighting Inflammation and Arthritis

As our immunity declines, we can also experience increased immune reactivity in the form of excessive inflammation. This seeming paradox occurs because the immune system includes powerful feedback mechanisms that normally control inflammation once the true threat has faded.⁸ With deteriorating overall immune function, that regulatory capability declines, leaving us vulnerable to conditions characterized by excessive inflammation.¹⁸

The drop in our immune regulatory function with aging brings with it chronic autoimmune conditions such as lupus and rheumatoid arthritis. Notoriously difficult to treat, hyperimmune egg and similar preparations have shown considerable success in reducing inflammation in animal models.^{14,21-23}

An astonishing human study from Weill Cornell Graduate School of Medical Sciences demonstrated the power of hyperimmune egg therapy in patients with various forms of arthritis.²⁴ There was a significant improvement following the start of supplementation and there was a strong trend for improvement in the patients with rheumatoid arthritis as well. Improvement was sustained for at least 30 days after patients stopped taking the supplement. The researchers believed that the hyperimmune egg preparation may have reduced the intestinal burden of organisms that tend to cross-react with human tissues during the autoimmune response.²⁴

Oral Health

Immunosenescence brings with it many negative changes to the oral cavity, particularly the teeth and gums, which can harbor infectious organisms and massive inflammation that contribute to chronic conditions, such as cardiovascular disease.^{25,26} Dental plaque is a biofilm of bacteria and inflammatory molecules that increase the risk of both cavities and gum inflammation (gingivitis).

Hyperimmune egg extract has been shown to reduce the volume of dental plaque, which in turn cuts down on the total load of inflammation in the mouth.²⁷ And animals supplemented with hyperimmune egg against the leading bacterial cause of caries developed significantly lower caries scores than did control animals.^{28,29} Oral hyperimmune egg rinses have also been used successfully in humans to reduce their burden of disease-causing bacteria; the extracts remain active and present in the mouth at least overnight, offering



Combating Immunosenescence

- Eggs laid by highly immunized hens (hyperimmune eggs) hold great promise for ameliorating human disease.^{14,17,65}
- Hyperimmune eggs are rich in substances that protect against many different germs that cause human infections, both within and outside of the gastrointestinal tract.⁶⁶⁻⁶⁸
- Hyperimmune egg extracts survive the hostile environment in the stomach and intestines, and may prevent germs from binding the intestinal lining.^{15,45,49,50,68-70}
- Hyperimmune egg extracts also block germs in the oral cavity and elsewhere in the body, contributing to a reduction in inflammation and potentially preventing autoimmune and cardiovascular diseases.^{28,71}
- Hyperimmune egg supplements enhance cardiac and muscle function while hastening exercise-induced healing.⁵⁶⁻⁵⁸
- Hyperimmune egg extracts provide support for immune system function and quality of life in patients with suppressed immune systems, such as those living with HIV/AIDS.⁶⁰
- Hyperimmune egg supplements are safe for anyone who can eat eggs; consumption of eggs is not directly correlated with the risk of heart disease.^{72,73}
- Daily use of hyperimmune egg supplements may reduce your risk for a host of infectious, immune, and inflammatory conditions.^{13,28,65,74,75}

long-standing protection.³⁰⁻³² Hyperimmune egg-containing toothpaste and gum implants have even been used in the battle against tooth and gum disease.³³

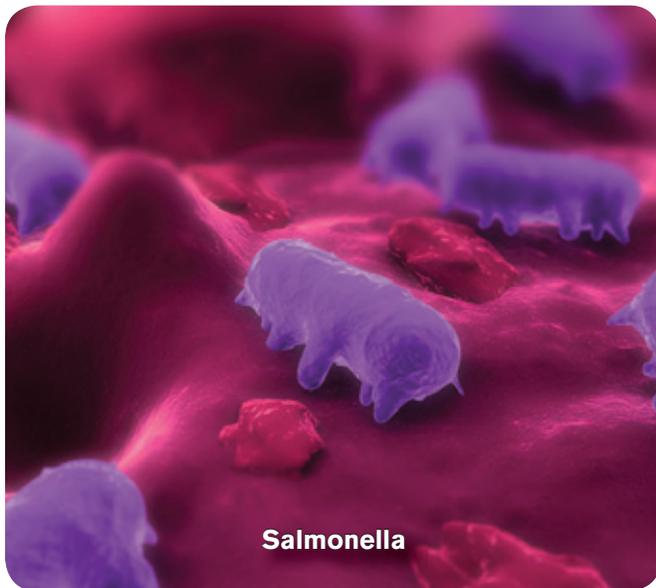
Gastrointestinal Infections

Immunosenescence has tremendous implications for the human gastrointestinal (GI) tract, which is one of our largest organs that interacts directly with the outside world. Normal GI immune protection allows only beneficial nutrients and fluids to pass while excluding the millions of dangerous organisms. The normal GI tract also secretes beneficial IgA antibodies that coat and isolate bacteria. And the GI tract contains its own set of vigilant immune system cells that recognize and respond to threats instantly.

With aging, all of those GI immune functions diminish, leaving us vulnerable not only to GI-related infections and to diarrhea, but also to malignancies such as colon cancer, one of the top killers of the elderly.³⁴⁻³⁶ In fact, bacterial overgrowth, extending into the small intestine, is a significant problem that is commonly misdiagnosed in the elderly.³⁷

Unfortunately, most common viral GI infections don't respond to antibiotics, and some can actually be exacerbated by them.^{38,39} We need to find a better way, one that relies not on killing the organisms with chemicals, but rather inactivates them where they live and prevents their spread.

Hyperimmune egg extracts appear to offer just such a better approach. The most notorious harmful microorganisms in humans are the bacteria *Salmonella* and *E. coli* and the common virus called rotavirus. In animal studies, efficacy rates for the use of the hyperimmune egg preparation are typically near 100%, even



What About Egg Allergies?

Hyperimmune egg extracts are derived from hens' eggs. That means that they are safe for the vast majority of people who can consume eggs without allergic signs or symptoms. Indeed, few side effects of any kind have been reported in human use.⁵² But the few people with known egg allergies (people who develop rash, wheezing, throat swelling, or anaphylactic reactions) should not use it. Adults generally know if they are allergic to eggs, but if you have any question, check with your doctor before using any egg supplement.



when the egg preparation is given after infection.⁴⁰⁻⁴⁴ For example, mice were protected against rotavirus and *Salmonella* infection by oral administration of the hyperimmune egg.⁴⁴⁻⁴⁶ Astonishingly, experimental animals also received partial protection against strains other than those to which the hens had originally been immunized!^{42,44} Of equal importance for public health officials, hyperimmune egg-supplemented subjects excrete little or no virus or bacteria, compared with the high rates of viral and bacterial transmission seen in controls.⁴⁷⁻⁵⁰

Even when used for treatment, after an infection has already taken hold, hyperimmune egg can be effective, producing cure rates as high as 84% and reducing excretion of germs in the stool. Interestingly, in human studies by world-renowned expert S.A. Sarker at the Center for International Diarrheal Disease Research, hyperimmune egg proved similarly effective at treating infant rotavirus diarrhea compared with a similar milk-based colostrum preparation.^{17,51}

It's clear that hyperimmune egg has the potential to prevent and treat dangerous and uncomfortable gastrointestinal infections. But many other roles are emerging for this discovery. Let's examine how hyperimmune egg can prevent other kinds of infections.



Other Antibacterial Effects

Of course, waning immunity resulting from immunosenescence leaves us vulnerable to a wide variety of bacterial infections outside of the GI tract as well. Hyperimmune egg extracts are showing promise in many such infections.

Patients with cystic fibrosis (CF) are especially at risk for colonization of their lungs with *Pseudomonas aeruginosa* (PA), an organism that thrives in their overly-viscous mucous secretions. PA infection is in fact the major cause of death and disability in cystic fibrosis patients.⁵² But among cystic fibrosis patients who gargled with an hyperimmune egg preparation from hens immunized against PA, none became chronically colonized with the organism, while 24% of control subjects did.⁵²

Hyperimmune egg has also proven effective for other, less serious but more common respiratory tract infections. There was a dramatic reduction in symptoms among people with both acute and chronic bacterial sore throat when they used a hyperimmune egg-containing throat spray, compared with placebo-treated subjects.⁵³

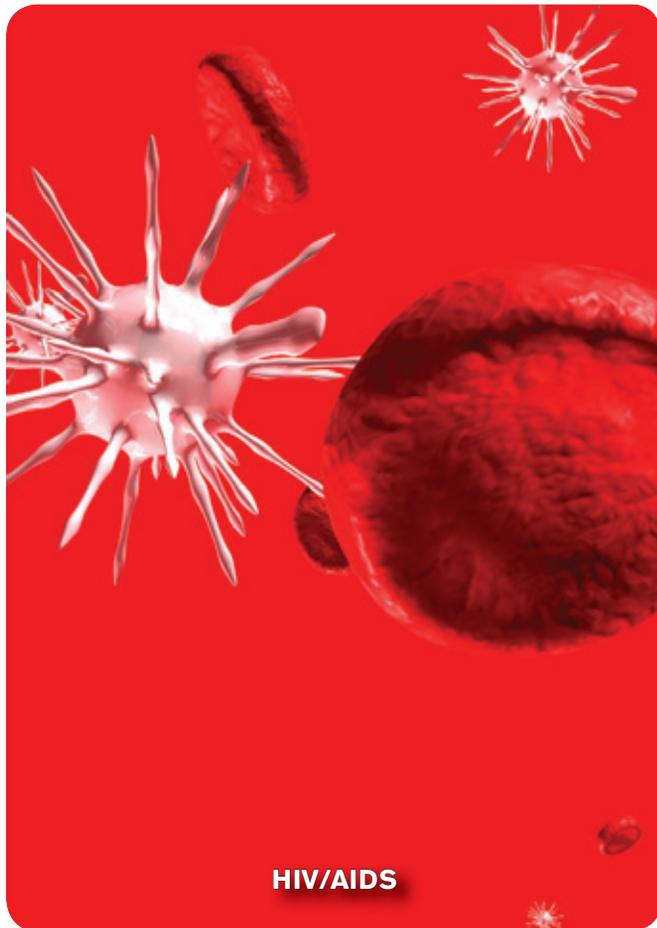
Exercise and Fitness

Immunosenescence threatens muscle mass, cardiac function, and overall fitness, the result of increased circulation of inflammatory cytokines and increased susceptibility to infection.⁵⁴ At the same time, moderate exercise is known to be beneficial to older adults,⁵⁵ but brings with it some risk of muscle injury and even increased inflammation. A group of studies from the Human Performance Laboratory at the College of Charleston, SC, has revealed that hyperimmune egg supplements may hasten recovery from exercise-induced muscle damage. The supplements increase production of growth hormone, a vital mediator of tissue maintenance and repair.⁵⁶ Supplemented subjects saw an increase in their bench press strength and endurance, decreased muscle soreness, and enhanced muscle repair during recovery.⁵⁷ At the same time the supplemented subjects had a decrease in their heart rate and increase in their peak power during aerobic workouts.⁵⁸

People Living with HIV/AIDS

In many ways, infection with the human immunodeficiency virus (HIV) mimics accelerated immunosenescence with its diminished immunity and increased inflammation.⁵⁹ A study of people living with HIV/AIDS demonstrated remarkable benefits from consumption of hyperimmune egg extract.⁶⁰ Supplemented subjects saw overall improvement in their quality of life, including marked reductions in anorexia, abdominal pain, diarrhea, short-term memory loss, dizziness, headache, fatigue, and poor sleep. Pain and difficulty breathing were reduced as well, and 100% of subjects experienced significant weight gain by the end of the 8-week study. Markers of inflammation fell significantly, and the all-important CD4 lymphocyte count, an indicator of immune function, improved in 20% of patients.

This is a tremendously important finding, given the profound immune suppression and wasting that is typically seen in HIV/AIDS and the exorbitant expense of standard treatment. The possibility that an inexpensive and readily distributed egg extract could relieve so much suffering offers an important breakthrough.



Supporting Immune Health in Cancer Patients

Immunosenescence is a significant factor in increasing our risk for cancer, as the immune system's normally high level of surveillance for potential malignancies tapers off. At the same time, cancer, like HIV/AIDS, brings with it a kind of accelerated immunosenescence, as cancer cells invade and destabilize their unfortunate hosts. Chemotherapy typically exacerbates the situation in most cancers, leaving cancer patients even more vulnerable to infection. The GI tract in particular takes a hard hit from both cancer and chemotherapy, both of which increase intestinal permeability and allow dangerous infections to enter the body.⁶¹

Astonishingly, orally administered antibodies of various kinds are showing real promise in ameliorating the effects both of cancer and of chemotherapy on the GI tract.⁶² A mixture of human IgA and IgG antibodies, given orally to bone marrow transplant patients, prevented the dangerous increase in intestinal permeability that was seen in placebo patients.⁶³ And animal-derived immunoglobulins (similar to the biologically active proteins in hyperimmune egg extracts) were able to reduce fungal colonization when given orally to bone marrow transplant recipients.⁶⁴ These studies validate the concept of using hyperimmune egg to provide strong GI immunity support in dangerously immune-suppressed cancer patients, and point the way to future studies with even more dramatic results.

Summary

We live in a hostile world, surrounded by an environment filled with germs and toxins that can harm us acutely or cause us chronic pain and misery. As we age, *immunosenescence* weakens our immune system, rendering us vulnerable not only to dangerous infections, but also to cancers and even to autoimmune and other inflammatory conditions. Biomedical chemistry and pharmaceutical approaches often fail to rectify the situation, and indeed can exacerbate our risks (as in the case of excessive antibiotic prescribing, which leads to newly dangerous organisms).

The humble hen's egg, however, is a natural repository for protective elements that can promote human health. Hens that have been immunized against human disease-causing organisms lay eggs enriched with substances that have the potential to improve human health, both in the gastrointestinal tract and

in other parts of the body. Diseases such as gastrointestinal and other infections, as well as those caused by excessive inflammation, are all legitimate targets of hyperimmune egg supplementation. Moreover, hyperimmune egg supplements can improve immunity in people living with HIV/AIDS and even show potential for providing strong immunity support in cancer victims. There's no question: hyperimmune eggs offer a unique approach to protecting health and longevity. ●

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

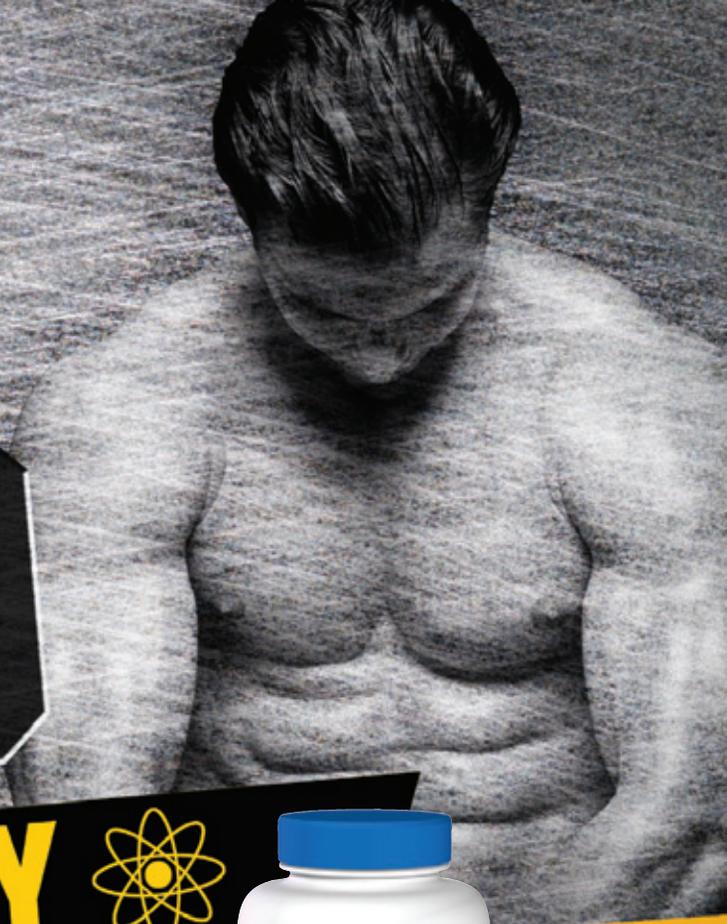
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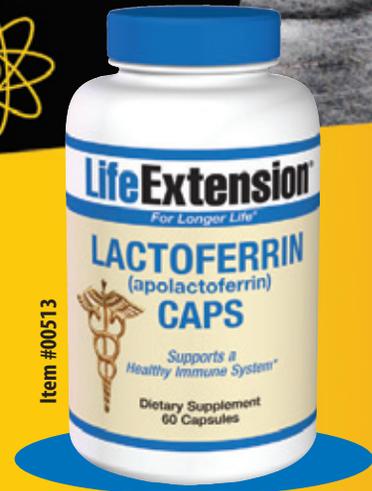


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IRON GLAD



IMMUNITY



Nobody wants to get sick. Whether it's the flu or the common cold, illness can sap you of your energy and leave you bedridden and lethargic. One of the best ways to avoid succumbing to an infectious agent is to have a robust immune system supported by **lactoferrin**.

Lactoferrin is a supplement in the immune-boosting arsenal. It is a versatile substance found in mother's milk that plays an important role in the immune system response.¹ Lactoferrin's benefits include:

- Helps to promote beneficial bacterial flora growth in the intestines*
- Promotes and supports natural resistance and provides protection for healthy cells*
- Modulates immune function^{2*}
- Scavenges excess iron to prevent free radical damage*

References:

1. *Breastfeed Rev* 2002 Nove:10(3):5-18.
2. *J Endotoxin Res* 2002;8(6):403-17.

Contains milk.

The retail price for a bottle of 60 300 mg capsules of 95% apolactoferrin (a potent form of lactoferrin) is \$40. If a member buys four bottles, the price is reduced to just **\$27** per bottle.

The suggested dose is one 300 mg capsule per day. This means each 60 capsule bottle will last for two months. Life Extension members obtain this premium form of lactoferrin (called apolactoferrin) for less than conventional lactoferrin supplements.

**To order Lactoferrin Caps,
Call 1-800-544-4440 or visit
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* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.



High Performance Supplement
Supports Thicker, Healthier

Hair



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*.

The Most Absorbable Tocotrienol Supplement Available Today

Through a revolutionary, patented delivery system, **Super Absorbable Tocotrienols** ensures optimal absorption²⁻⁷ and efficiently delivers the benefits of a unique proprietary complex of *phytonutrients* (squalene, phytosterols and trace

amounts of mixed carotene) naturally extracted together with tocotrienols to support youthful hair growth, hair health and hair density. In a study involving 30 volunteers who took tocotrienol supplements for eight months, nearly all the subjects showed significant improvement in hair thickness and density.¹

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**.

To order **Super Absorbable Tocotrienols**,
call **1-800-544-4440**
or visit **www.LifeExtension.com**

Reference:

1. *Randomized Clinical Trial of Tocotrienol 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.
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7. US Patent No:US 6,596,306.

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.



RESTORE IMMUNE BALANCE WITH **i26[®] Hyperimmune Egg**

Longevity enthusiasts know the crucial importance of protecting **immune** health. So much so that some researchers believe age-related changes in immune function may accelerate *system-wide* aging itself.*

To complement immune-protecting strategies **Life Extension[®]** members already employ, **i26[®] Hyperimmune Egg** powder was introduced last year. Derived from the eggs of hyper-immunized hens, it may facilitate youthful immune balance in several ways. i26[®] Hyperimmune has been clinically shown over the past 20 years to support the immune system and help with gastrointestinal insults and digestive issues.

Now Available in Capsule or Chewable Tablet Forms

For ease of use and convenience, **i26[®] Hyperimmune Egg** is now available in vanilla-flavored **chewable tablet** or **capsule** forms, in addition to **powder**.

A canister containing **140 grams** of **i26[®] Hyperimmune Egg powder** retails for \$49.99. **Life Extension[®]** members pay **\$42** per jar. Each jar provides 31 servings.

Bottles containing **45 i26[®] Hyperimmune Egg** vanilla-flavored **chewable tablets** (15 servings) or **135 capsules** (15 servings) retail for \$31.99 each. Members pay **\$25.59** per bottle for either.



i26[®] Hyperimmune Powder
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These products may not need to be taken every day. Some people keep them on hand for those occasions when the need to support immune health arises. i26[®] is a registered trademark of Legacy for Life, LLC.

Caution: Diabetics should also consult a physician, and monitor blood sugar levels closely.

Reference: *Immun Ageing. 2005 Apr 25;2(1):7.

To order any of these **i26[®] Hyperimmune Egg** products
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WELLNESS PROFILE

BY JON FINKEL



PHOTOGRAPH © GUIDO APICELLA

Lorenzo Price

Just Do It

When coming up with a name for his fitness company, Lorenzo Price wanted something that conveyed energy, enthusiasm, and above all, a “no-excuses” attitude.

“‘Do It Fitness’ is the perfect name,” Price says. “It encapsulates my training and nutrition philosophy in three simple words. When it comes to getting in shape or altering your diet, I’ve found that far too many people talk about wanting to improve their fitness and eating habits while very few people actually do anything about it. The name says it all. Do It Fitness.”

This isn’t to say that Price doesn’t take the time to talk to his clients. In fact, it’s just the opposite. Upon first meeting someone he is going to work with, Price asks them to list the three goals they’d most like to meet while working with him. He then discusses the motivation behind

those goals to get to the root of what a client is truly after. Quite often, the real goal is then revealed.

When it comes to getting in shape or altering your diet, I’ve found that far too many people talk about wanting to improve their fitness and eating habits while very few people actually do anything about it.

WELLNESS PROFILE

“For instance,” Price says. “If a client simply tells me that they want to lose weight, well, that’s a very vague goal, so I’ll keep asking questions. I’ll ask them why they want to lose weight. Sometimes, with my aging clients, they’ll say they want to lose weight because they feel tired all the time. Well, now I know that the issue isn’t so much weight loss, but energy improvement. When I press further, I’ll find out that they want to be more active with their grandchildren. A few questions later, I’ll find out that their grandchild plays tennis and they’d like to play with them. Now we have a specific goal: To be able to play tennis with the grandkids. And we’re off and running!”

Putting Philosophy Into Action

Paying attention to detail is what separates Price from other trainers in the fitness world today. Often, trainers that work at large chain gyms are only interested in the volume of clients they have, rather than the quality of training. It can be a very impersonal experience, with the trainer watching the clock more than the client to make sure they have you out in time for the next person.

“In addition to weight loss, many of my clients are dealing with some sort of shoulder, knee, hip, or lower back problem,” Price says. “With these clients, technique is important in many exercises because we don’t want to further aggravate a problem. Another benefit of watching a client’s technique is that I can see how someone may be favoring a certain area of their body. Sometimes, a lower back problem is really a lack of flexibility in the quads or hamstrings, which leads to restricted lower

body movements, which puts extra pressure on the back. You need to constantly be on the lookout for these things so you can treat the right problem.”

When you listen to Price, you get the feeling that peeling back the layers of someone’s physical fitness is just as much art as science.

On the science front, he’ll perform a body assessment on each client when they start to help determine a baseline level of fitness in several key areas. Depending on if they apply to a particular client, he’ll measure cardiovascular

endurance, muscle strength and endurance, injury issues, body composition, flexibility, and recovery time. When these numbers shake out, he’ll have a better idea of where a client is starting from.

Of course, not all of his clients are beginning an exercise program for the first time or have let themselves get out of shape. Many clients exercise on a regular basis but are looking to improve in a specific area or sport.

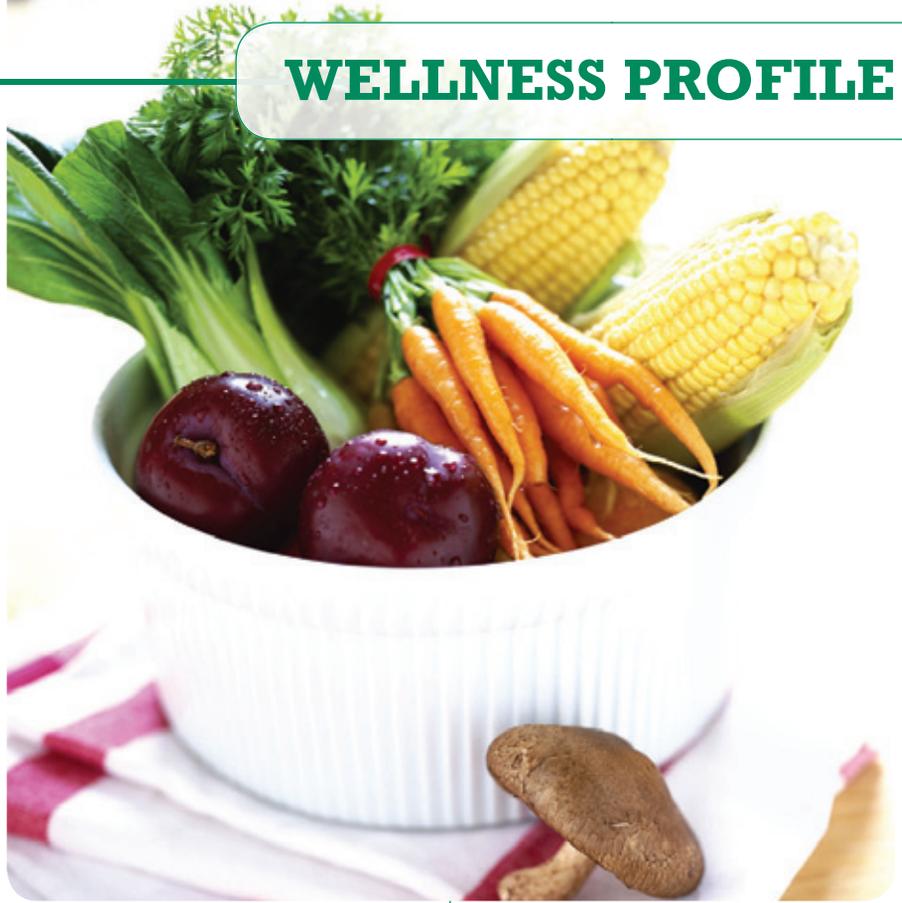
“I have helped several overweight clients lose in the range of 10 to 30 pounds,” he says. “But I



Rope undulation workouts for extreme fitness.

PHOTOGRAPH © GUIDO APICELLA

WELLNESS PROFILE



have also helped younger clients pack on lean muscle mass through high calorie diets and strength training. I've also worked with clients who simply want to be better golfers or tennis players or swimmers. There is simply no age limit on these activities anymore. If someone has the right attitude and the right motivation, I can work with them to meet any realistic goal."

When Fitness Meets Nutrition

While common sense dictates that diet has as much to do with overall fitness as training does, what people know and what they practice are often two remarkably different things. With this in mind, Price spends almost as much time training people how to eat properly as he does training them how to exercise.

"It does no good to train someone without revamping their diet as well if that's an issue," Price says. "Changing eating habits is just as important as changing exercise habits. I advise my clients to eat healthy, balanced meals filled with fruits, vegetables, fresh fish, chicken, and whole grains. The fruits and vegetables provide the antioxidants, vitamins, and min-

erals people need to keep them healthy, while the grains, fish, and poultry provide the energy and protein."

Price feels like he has to live the life that he recommends, which is why he says that he and his wife make a concerted effort to eat only the healthiest meals with the freshest ingredients.

"Fortunately, my wife is an excellent cook," he says. "But for my clients who aren't as lucky as I am, I tell them that there are plenty of options for quick, healthy meals. Even fast food restaurants have grilled chicken salads now. Also, if people don't like cooking, I'll advise them to make several healthy meals at once on Sunday and then put them in the fridge to be eaten throughout the week. That saves time, money, and health."

But no matter how well someone sticks to their new diet, Price knows that they'll need some help with supplements to make sure they're getting the proper amount of nutrients.

"**Life Extension**[®] without a doubt has the finest supplements available today," he says. "I recommend that all my clients become members and take advantage of the highest quality ingredients that Life Extension uses. Personally, I take Life Extension's Whey Protein, Two-Per-Day Multivitamin, Branched Chain Amino Acids, and their Agave Digestive-Immune Support formula."

With diet and exercise taken care of, there's only one thing left: attitude.

"All I ask is that my clients give me 100% because that's what I'm going to give them," he says. "If we're both giving our best, anything is possible." ●

Lorenzo Price's Personal Supplements

- Life Extension Whey Protein
- Life Extension Two-Per-Day
- Branched Chain Amino Acids
- Agave Digestive-Immune Support Formula

Lorenzo Price is the Fitness Director and founder of Do It Fitness, LLC, in Miami, FL. To contact Do It Fitness, visit www.doitfitnessmiami.com.

SUPPORT ENDOTHELIAL HEALTH FOR MAXIMUM SEXUAL PERFORMANCE

Overlooked in the effort to support **sexual function** in aging men is the health of the **vascular system**. Blood flow through the delicate lining of the arteries (the **endothelium**) is **essential** to sexual arousal, so it should come as no surprise that **endothelial function** is closely associated with male sexual capacity.¹

Life Extension® has discovered supportive clinical research for a scientifically validated, *natural* dietary supplement formula to promote **endothelial function** and **blood flow** to the place men need it most—for maximum performance.

The ingredients found in **Prelox® Natural Sex for Men**® have yielded compelling and highly satisfactory results in **five independent clinical studies**.²⁻⁶

Our analysis also confirms that unlike some performance enhancement supplements marketed as “natural,” **Prelox® Natural Sex for Men**® is not adulterated with trace amounts of prescription drugs.

A Powerful Synergy to Support Sexual Health

The patented blend of the following *natural* ingredients positively affects the male physiology in three ways, to provide optimal support:

1. **PYCNOGENOL**® (standardized French maritime pine bark extract) activates **endothelial nitric oxide synthase** (eNO-S),⁷ the enzyme required to make **nitric oxide**. Nitric oxide (NO) *relaxes* the vessels that enable efficient blood flow—the key to healthy male sexual activity and overall vascular health. Pycnogenol® further **amplifies** this relaxing effect by extending the amount of time nitric oxide remains in the bloodstream.
2. **L-ARGININE** is the biological precursor to nitric oxide synthesis in the endothelium.⁷ It interacts **synergistically** with Pycnogenol® to sustain nitric oxide levels sufficient for healthy sexual function.
3. **ICARIIN**—a natural plant extract used in traditional Chinese medicine—has been shown to **deactivate** the enzyme normally responsible for **winding down** male sexual response, further promoting sustained activity.⁸ Prelox® Natural Sex for Men® contains a standardized extract providing a proprietary form of pure, high-quality icariin.

The suggested dose of two Prelox® Natural Sex for Men® tablets each day provides:

Prelox® Proprietary Blend	1440 mg
L-Arginine HCl, Aspartic Acid, Pycnogenol® Dried French Maritime Pine (<i>Pinus pinaster</i>) Extract (bark)	

Natural Sex®	60 mg
Icariin from [<i>Epimedium sagittatum</i> Extract (aerial parts)]	

A 60-tablet bottle of **Life Extension® Prelox® Natural Sex for Men**® retails for \$50. If a member buys four bottles, the price is reduced to just **\$30.38 per bottle**.

Contains corn.

References

1. *Int J Impot Res* 2008 Dec; Suppl 2:S9-14.
2. *Int J Impot Res*. 2008 Mar;20(2):173-80.
3. *Phytother Res*. 2009 Mar;23(3):297-302.
4. *J Sex Marital Ther*. 2003 May;29(3):207-13.
5. *European Bulletin of Drug Research*. 2005;13(1): 7-13.
6. *Akush Ginekol (Sofia)*. 2007;46(5):7-12.
7. Rohdewald P. Pycnogenol, French maritime pine bark extract. In: Coates P, ed. *Encyclopedia of Dietary Supplements*. New York; Marcel Dekker; 2004.
8. *Urology*. 2006 Dec;68(6):1350-4.

CAUTION: If you have significant liver disease, please consult with your healthcare practitioner before using this product.

Prelox® and Pycnogenol® are registered trademarks of Horphag Research Ltd. Prelox® is protected by U.S. patent #6,565,851B2. Pycnogenol® is protected by U.S. patents #5,720,956 and #6,372,266 and other international patents. Cannot be sold outside the USA.

To order Prelox® Natural Sex For Men®, call 1-800-544-4440 or visit www.LifeExtension.com



Item# 01373

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.



Item #01432

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.



Blood testing provides the ultimate information regarding correctable risk factors that may predispose you to disorders such as cancer, diabetes, cardiovascular disease, and more. Information about general health and nutritional status can also be gained through standard blood analysis. Standing behind the belief that blood testing is an essential component of any program designed to attain optimal health and longevity, *Life Extension*[®] offers this innovative and convenient service at a very affordable price. Not only is comprehensive blood testing an important step in safeguarding your health, it is a simple process from virtually anywhere in the United States.

Five Easy Steps:

1. Call 1-800-208-3444 to discuss and place your order with one of our knowledgeable health advisors. (This order form can also be faxed to 1-866-728-1050 or mailed). Online orders can also be placed at www.lifeextension.com.
2. After your order is placed, you will be mailed either a requisition form to take to your local LabCorp Patient Service Center or a Blood Draw Kit; whichever is applicable (Please note: If a blood draw kit is used, an additional local draw fee may be incurred.)
3. Have your blood drawn.
4. Your blood test results will be mailed directly to you by Life Extension.
5. Take the opportunity to discuss the results with one of our knowledgeable health advisors by calling 1-800-226-2370; or review the results with your personal physician.

It's that simple! Don't delay—call today!

For Our Local Members:

For those residing in the Ft. Lauderdale, Florida area, blood-draws are also performed at the Life Extension Nutrition Center from 9:00 am to 2:00 pm Monday through Saturday. Simply purchase the blood test and have it drawn with no wait! Our address is 1100 West Commercial Blvd, Ft. Lauderdale, FL, 33309. We're located at Commercial Blvd and Powerline Road, just west of I-95. For more information or directions call 954-766-8144.

Blood Testing The Ultimate Information

MOST POPULAR PANELS

Life Extension Member Pricing

- **COMPREHENSIVE PANELS**

MALE WEIGHT LOSS PANEL (LCWLM)* **\$299**

CBC/Chemistry Profile	DHEA-S
Insulin	PSA (prostate-specific antigen)
Free Testosterone	Total Testosterone
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**

CBC/Chemistry Profile	DHEA-S
Homocysteine	TSH for thyroid function
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)	
- **FEMALE HORMONE ADD-ON PANEL (LCADDF)*** **\$125**

Pregnenolone and Total Estrogens

To provide an even more in-depth analysis of a woman's hormone status, Life Extension has created this panel as an addition to the Female Life Extension Panel. This panel provides valuable information about total estrogen status, and the mother hormone that acts as a precursor to all other hormones.
- **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**

OVER 40 PARAMETERS TESTED

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**

Includes TNF-alpha, IL-6, IL-1 beta and IL-8. Cytokines are proteins that modulate the inflammatory response. This panel is used to identify elevated levels of specific cytokines.

NEW LOW PRICE
- **OMEGA SCORE™™™ (LCOMEGA)** **\$131.25**

Provides valuable information on your risk of developing heart disease, sudden heart attack, and cardiac death. The Omega Score™ also includes your AA:EPA ratio, allowing you to determine and track a major factor in total body inflammation.
- **COQ10* (COENZYME Q10) (LC120251)** **\$99**

This test is used to check the blood level of CoQ10 and will enable more precise dosing for anyone seeking to achieve and maintain high levels of this critical antioxidant.

* This test requires samples to be shipped to the lab on dry ice for customers using a Blood Draw Kit and will incur an additional \$35 charge. If the customer is having blood drawn at a LabCorp facility, this extra charge does not apply.

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



MOST POPULAR SINGLE TESTS

Life Extension Member Pricing

- | | | | |
|--|----------------|--|--------------|
| <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 | | |

For non-member prices
call 1-800-208-3444

This is NOT a complete listing of
LE blood test services. Call 1-800-208-3444
for additional information.

ORDER LIFE-SAVING BLOOD TESTS FROM VIRTUALLY ANYWHERE IN THE US!

TERMS AND CONDITIONS

This blood test service is for informational purposes only and no specific medical advice will be provided. National Diagnostics, Inc., and the Life Extension Foundation contract with a physician who will order your test(s), but will not diagnose or treat you. Both the physician and the testing laboratory are independent contractors and neither National Diagnostics, Inc., nor the Life Extension Foundation® will be liable for their acts or omissions. Always seek the advice of a trained health professional for medical advice, diagnosis, or treatment. When you purchase a blood test from Life Extension/National Diagnostics, Inc., you are doing so with the understanding that you are privately paying for these tests. There will be absolutely no billing to Medicare, Medicaid, or private insurance. I have read the above Terms and Conditions and understand and agree to them.

Signature of Life Extension Member

X

Life Extension Foundation Members only

MEMBER NO.

Male

Female

Name

Date of Birth
(required)

/ /

Address

City

State

Zip

Phone

Credit Card No.

Expiration Date

/

Mail your order form to:

LifeExtension
NATIONAL DIAGNOSTICS, INC.

1100 West Commercial Blvd.,
Ft. Lauderdale, FL 33309

Phone your order to: 1-800-208-3444

Fax your order to: 1-866-728-1050

Products

AMINO ACIDS

Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
Branched Chain Amino Acids
D, L-Phenylalanine Capsules
GABA Powder
Glycine Capsules
Glycine Powder
Arginine Capsules
L-Arginine Free Base Powder
Arginine/L-Ornithine Capsules
L-Carnitine Capsules
L-Cysteine Capsules
L-Glutathione, L-Cysteine & C
L-Glutamine Capsules
L-Glutamine Powder
L-Lysine Capsules
L-Lysine Powder
L-Tyrosine Tablets
Mega L-Glutathione Capsules
N-Acetyl Cysteine Capsules
Optimized Carnitine with GlycoCarn®
PharmaGABA
Super Carnosine Capsules
Taurine Capsules
Tryptopure® Tryptophan
(Optimized) Tryptopure® Plus

BONE & JOINT HEALTH

ArthroMax™ with Theaflavins
Bone-Up™
Bone Restore™
Bone Strength Formula w/KoAct™
Chondroitin Sulfate
Chondrox
Fast Acting Joint Formula
Glucosamine Chondroitin Capsules

BRAIN HEALTH

Acetyl-L-Carnitine
Acetyl-L-Carnitine-Arginate
CDP Choline Capsules
Cognitex with NeuroProtection Complex
Cognitex with Pregnenolone &
NeuroProtection Complex
Cognitex Basics
DMAE
DMAE-Ginkgo
Ginkgo Biloba Certified Extract™
Huperzine A
Lecithin with B5 and BHA
Lecithin Granules
Methylcobalamin Lozenges
Optimized Ashwagandha Extract
Phosphatidylserine Capsules
Rhodiola Extract
Super Ginkgo Extract
Vinpocetine

DIGESTIVE

Agave Digestive-Immune Support
Bromelain Powder
Carnosoothe w/PicroProtect
Digest RC™
Enhanced Super Digestive Enzymes
(also available with Probiotics)
Florastor
Intact Digest
Life Flora™
Natural EsophaGuard
N-Zimes™
Pancreatin
Primal Defense™
Regimint
Saccharomyces Boulardii+mos

DURK AND SANDY PRODUCTS

Blast™
Dual-C
Inner Power™
Memory Upgrade™

EYE CARE

Bilberry Extract
Blackcurrant Freeze Dried Extract
Brite Eyes III

Overcast Polarized Sunglasses
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
Sytrinol™
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-Methyl L-Selenocysteine
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

Bioactive Milk Peptides
L-Theanine
5 HTP
Enhanced Natural Sleep® w/ Melatonin
Enhanced Natural Sleep® w/o Melatonin
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
Mist Oral III™ with CoQ10
Mouthwash w/Pomegranate
Toothpaste

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

Cat Mix
Dog Mix

PROSTATE & URINARY HEALTH

BetterWOMAN®
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

Amber Self MicroDermabrasion
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®
Lavin 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
Rejuvenex® 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®
Flush & Be Fit
GlucFit™
Ideal Bowel Support 299

Lustre™
Maitake SX-Fraction™
Menopause Solutions
Migra-eeze™
Natural Female Support
Organic Total Body Cleanse
Pecta-Sol®
Potassium Iodide
PQQ Caps with BioPQQ™
PteroPure™
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 Each	Member Each	Qty	Total
A					
00449	ACETYL-L-CARNITINE - 500 mg, 100 caps	\$56.00	\$42.00		
	Buy 4 bottles, price each	46.66	35.00		
00788	ACETYL-L-CARNITINE ARGINATE - 100 caps	59.00	44.25		
	Buy 4 bottles, price each	50.99	38.24		
01308	ADVANCED LIPID CONTROL - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01300	ADVANCED ORAL HYGIENE - 60 veg. mint lozenges	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01417	AGAVE DIGESTIVE-IMMUNE SUPPORT - 360 grams powder	30.00	22.50		
	Buy 4 jars, price each	27.00	20.25		
00681	AHCC - 500 mg, 30 caps	48.98	36.74		
	Buy 4 bottles, price each	43.55	32.66		
*46925	ALLI® REFILL PACK - 120 caps	69.95	58.00		
00457	ALPHA-LIPOIC ACID w/BIOTIN (SUPER) - 250 mg, 60 caps	37.00	27.75		
	Buy 4 bottles, price each	32.00	24.00		
01440	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 100 caps	26.00	19.50		
	Buy 4 bottles, price each	23.00	17.25		
00105	APPLE PECTIN POWDER - 227 grams	14.75	11.06		
	Buy 4 bottles, price each	13.75	10.31		
01012	ARGININE CAPS - 800 mg, 200 caps	26.50	19.88		
	Buy 4 bottles, price each	23.25	17.44		
01039	ARGININE/ORNITHINE - 500/250, 100 caps	16.00	12.00		
	Buy 4 bottles, price each	14.50	10.88		
00038	ARGININE/ORNITHINE POWDER - 150 grams	22.95	17.21		
	Buy 4 bottles, price each	19.00	14.25		
01025	(L)-ARGININE FREE-FORM POWDER - 100 grams	15.98	11.99		
	Buy 4 bottles, price each	14.31	10.73		
01317	ARTHROMAX™ w/THEAFLAVINS - 120 veg. caps	44.00	33.00		
	Buy 4 bottles, price each	40.00	30.00		
01404	ARTHRO-IMMUNE JOINT SUPPORT - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	26.00	19.50		
00919	ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.38	19.04		
00086	ASCORBATE C (SUPER) - 8 oz powder	26.99	20.24		
	Buy 4 bottles, price each	24.87	18.65		
00080	ASCORBIC ACID POWDER - 454 grams	38.00	28.50		
	Buy 4 bottles, price each	34.93	26.20		
00082	ASCORBYL PALMITATE - 500 mg, 100 caps	22.50	16.88		
	Buy 4 bottles, price each	20.00	15.00		
00888	ASHWAGANDHA EXTRACT (OPTIMIZED) - 60 veg. caps	10.00	7.50		
	Buy 4 bottles, price each	9.00	6.75		
01066	ASPIRIN - 81 mg, 300 enteric coated tablets	6.00	4.50		
	Buy 4 bottles, price each	5.33	4.00		
00708	ASTAXANTHIN - 2 mg, 30 softgels	10.25	7.69		

SUB-TOTAL OF COLUMN 1

No.		Retail Each	Member Each	Qty	Total
B					
01040	BELLY SLIM & TONE - 6 fl oz	\$42.00	\$31.50		
	Buy 4 bottles, price each	38.00	28.50		
00920	BENFOTIAMINE w/ THIAMINE - 100 mg, 120 veg. caps	19.95	14.96		
	Buy 4 bottles, price each	18.60	13.95		
00925	BENFOTIAMINE (MEGA) - 250 mg, 120 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01206	BERRY COMPLETE - 30 veg. caps	21.00	15.75		
	Buy 4 bottles, price each	18.67	14.00		
01406	BERRY COMPLETE w/RZD™ ACAI (ENHANCED) - 60 veg. caps	29.00	21.75		
	Buy 4 bottles, price each	26.00	19.50		
00664	BETA-CAROTENE - 25,000 IU, 100 softgels	10.98	8.24		
	Buy 4 bottles, price each	9.83	7.37		
00653	BETTERWOMAN® -40 caps	40.00	30.00		
	Buy 4 bottles, price each	38.00	28.50		
01073	BILBERRY EXTRACT - 100 mg, 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01512	BIOACTIVE MILK PEPTIDES - 30 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
*01006	BIOSIL™ - 5 mg, 30 veg. caps	18.95	15.16		
*01007	BIOSIL™ - 1 fl oz	29.99	23.99		
00102	BIOTIN - 600 mcg, 100 caps	7.50	5.63		
	Buy 4 bottles, price each	6.50	4.88		
00145	BIOTIN POWDER - 30 grams	12.50	9.38		
	Buy 4 bottles, price each	11.00	8.25		
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		
	Buy 4 bottles, price each	20.00	15.00		
01438	BLUEBERRY EXTRACT w/ POMEGRANATE - 60 veg. caps	30.00	22.50		
	Buy 4 bottles, price each	27.00	20.25		
01506	BONE FORMULA (DR. STRUM'S INTENSIVE) - 300 veg. caps	56.00	42.00		
	Buy 4 bottles, price each	50.00	37.50		
00811	BONE RESTORE - 150 caps	22.50	16.88		
	Buy 4 bottles, price each	19.50	14.63		
01211	BONE STRENGTH FORMULA w/KOACT™ - 120 caps	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00313	BONE-UP® - 240 caps	24.95	18.71		
	Buy 4 bottles, price each	22.50	16.88		
01379	BOOSTER - 60 softgels	48.00	36.00		
	Buy 4 bottles, price each	44.00	33.00		
01380	BOOSTER w/ADVANCED K2 COMPLEX (SUPER) - 60 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00621	BORON - 3 mg, 100 caps	5.95	4.46		
	Buy 4 bottles, price each	5.25	3.94		
00202	BOSWELLA - 100 caps	38.00	28.50		
	Buy 4 bottles, price each	30.00	22.50		
00258	BOSWELLA TOPICAL CREAM - 4 oz	15.00	11.25		
	Buy 4 jars, price each	13.00	9.75		
01253	BRANCHED CHAIN AMINO ACIDS - 90 vegetarian caps	19.50	14.63		
	Buy 4 bottles, price each	17.00	12.75		

SUB-TOTAL OF COLUMN 2

To order online visit: www.lifeextension.com

Buyers Club Order Form

No.		Retail Each	Member Each	Qty	Total
00999	BREAST HEALTH FORMULA - 60 veg. caps Buy 4 bottles, price each	\$34.00 30.00	\$25.50 22.50		
00893	BRITE EYES III - 2 vials, 5 ml each Buy 4 boxes, price each	34.00 32.00	25.50 24.00		
00136	BROMELAIN POWDER - 100 grams Buy 4 bottles, price each	21.00 18.75	15.75 14.06		
01203	BROMELAIN (SPECIALLY-COATED) - 500 mg, 60 enteric coated tablets Buy 4 bottles, price each	21.00 19.00	15.75 14.25		
00884	BUTTERBUR EXT. w/STANDARDIZED ROSMARINIC ACID - 60 softgels Buy 4 bottles, price each	44.00 39.60	33.00 29.70		
C					
01015	CALCIUM CITRATE w/VITAMIN D - 300 caps Buy 4 bottles, price each	\$24.00 21.25	\$18.00 15.94		
00535	CALCIUM D-GLUCARATE - 200 mg, 60 caps Buy 4 bottles, price each	18.00 15.00	13.50 11.25		
01493	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 402 grams powder Buy 4 jars, price each Buy 8 jars, price each	56.00 48.00 44.00	42.00 36.00 33.00		
00118	CAPSULE FILLER MACHINE FOR "00" CAPSULES Buy 4 machines, price each	17.95 17.25	13.46 12.94		
00613	CAPSULE FILLER MACHINE FOR "0" CAPSULES Buy 4 machines, price each	17.95 17.25	13.46 12.94		
00916	CARNITINE w/GLYCOCARN® (OPTIMIZED) - 60 veg. caps Buy 4 bottles, price each	29.00 26.10	21.75 19.58		
01041	L-CARNITINE - 500 mg, 30 caps Buy 4 bottles, price each	15.00 13.20	11.25 9.90		
01258	CARNOSOTHE w/PICROPROTECT™ - 60 veg. caps Buy 4 bottles, price each	29.95 27.00	22.46 20.25		
01287	CARNOSINE (SUPER) - 500 mg, 90 caps Buy 4 bottles, price each	66.00 60.00	49.50 45.00		
01003	CAT MIX - 100 grams powder Buy 4 bottles, price each	15.00 12.00	11.25 9.00		
00390	CDP CHOLINE CAPS - 250 mg, 60 caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
00998	CELL SENSOR-EMF DETECTION METER	39.95	29.95		
01370	CHILDREN'S FORMULA LIFE EXTENSION MIX™ - 100 chewable tablets Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00550	CHLORELLA - 500 mg, 200 tablets Buy 4 bottles, price each	23.50 21.00	17.63 15.75		
01548	CHLOROPHYLLIN w/ZINC - 100 softgels Buy 4 bottles, price each	24.00 20.00	18.00 15.00		
*01359	CHO-LESS™ - 90 capsules	32.50	24.38		
00541	CHOLINE CHLORIDE - 16 oz liquid Buy 4 bottles, price each	14.95 14.00	11.21 10.50		
00364	CHONDROITIN SULFATE CONCENTRATE - 400 mg, 60 tablets Buy 4 bottles, price each	19.95 18.00	14.96 13.50		
01218	CHROMIUM ULTRA - 100 veg. caps Buy 4 bottles, price each	24.00 21.00	18.00 15.75		
01504	CHROMIUM w/CROMINEX® 3+ (OPTIMIZED) - 500 mcg, 60 veg. caps Buy 4 bottles, price each	9.00 8.00	6.75 6.00		
00551	CILANTRO HERBAL EXTRACT - 1 oz Buy 4 bottles, price each	12.00 11.00	9.00 8.25		

SUB-TOTAL OF COLUMN 3

No.		Retail Each	Member Each	Qty	Total
01503	CINSULIN® w/INSEA™ AND CROMINEX® 3+ - 90 veg. caps Buy 4 bottles, price each	\$38.00 34.00	\$28.50 25.50		
00069	CITRUS BIOFLAVONOID - 100 caps Buy 4 bottles, price each	15.99 14.82	11.99 11.12		
00818	CLA BLEND w/SESAME LIGNANS (SUPER) - 1000 mg, 120 softgels Buy 4 bottles, price each Buy 10 bottles, price each	36.00 33.00 26.33	27.00 24.75 19.75		
00819	CLA BLEND w/GUARANA & SESAME (SUPER) -1000 mg, 120 softgels Buy 4 bottles, price each	42.00 38.33	31.50 28.75		
00050	COD LIVER OIL (EMULSIFIED) - 12 fl oz (355 ml) Buy 4 bottles, price each	14.58 12.27	10.94 9.20		
00293	COD LIVER OIL (EMULSIFIED) - 100 softgels (Emulsified) Buy 4 bottles, price each	9.95 9.38	7.46 7.04		
00922	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 90 softgels Buy 4 bottles, price each Buy 12 bottles, price each	74.00 66.60 64.00	55.50 49.95 48.00		
00921	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 90 softgels Buy 4 bottles, price each Buy 12 bottles, price each	72.00 64.00 62.00	54.00 48.00 46.50		
01421	COGNITEX BASICS - 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	38.00 35.00 32.00	28.50 26.25 24.00		
00110	COMPLETE B-COMPLEX - 180 caps Buy 4 bottles, price each	21.50 18.00	16.13 13.50		
01574	COMPREHENSIVE NUTRIENT PACK - 30-day supply Buy 4 bottles, price each	189.00 171.00	141.75 128.25		
00119	COPPER CAPSULES - 2 mg, 100 caps Buy 4 bottles, price each	8.95 8.09	6.71 6.07		
00949	COQ10™ w/d-LIMONENE (SUPER ABSORBABLE) - 50 mg, 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	25.00 22.00 20.00	18.75 16.50 15.00		
00950	COQ10™ w/d-LIMONENE (SUPER ABSORBABLE) - 100 mg, 100 softgels Buy 4 bottles, price each Buy 12 bottles, price each	66.00 60.00 56.00	49.50 45.00 42.00		
01226	COQ10 (SUPER UBIQUINOL) - 100 mg, 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	56.00 52.00 48.00	42.00 39.00 36.00		
01426	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) -100 mg, 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	62.00 56.00 52.00	46.50 42.00 39.00		
01425	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) -50 mg, 100 softgels Buy 4 bottles, price each Buy 10 bottles, price each	58.00 53.00 50.00	43.50 39.75 37.50		
01427	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) -50 mg, 30 softgels Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
01431	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) -200 mg, 30 softgels Buy 4 bottles, price each Buy 10 bottles, price each	62.00 56.00 52.00	46.50 42.00 39.00		
01053	CORIOLUS SUPER STRENGTH - 600 mg, 150 veg. caps	99.95	74.96		
00857	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 30 packets Buy 4 boxes, price each	25.00 22.50	18.75 16.75		

SUB-TOTAL OF COLUMN 4

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

APRIL 2011

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
C CONTINUED					
80139	COSMESIS AMBER SELF MICRODERMABRASION - 2 oz Buy 2 jars, price each	\$49.00 42.00	\$36.75 31.50		
80118	COSMESIS ANTI-AGING MASK - 2 oz Buy 2 bottles, price each	72.00 63.36	54.00 47.52		
80134	COSMESIS ANTI-GLYCATION SERUM - 1 oz W/BLUEBERRY & POMEGRANATE EXTRACTS Buy 2 bottles, price each	33.00 31.35	24.75 23.51		
80133	COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz Buy 2 bottles, price each	32.00 30.40	24.00 22.80		
80127	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz Buy 2 jars, price each	45.00 42.80	33.75 32.10		
80128	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz Buy 2 jars, price each	59.00 51.92	44.25 38.94		
80117	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz Buy 2 jars, price each	64.00 57.49	48.00 43.12		
80121	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz Buy 2 jars, price each	58.00 51.04	43.50 38.28		
80105	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 1 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80120	COSMESIS CORRECTIVE CLEARING MASK - 2 oz Buy 2 jars, price each	64.50 56.76	48.38 42.57		
80108	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz Buy 2 bottles, price each	74.95 65.95	56.21 49.46		
80123	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz Buy 2 jars, price each	69.50 61.16	52.13 45.87		
80107	COSMESIS FINE LINE-LESS - 1 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80131	COSMESIS HAIR SUPPRESS FORMULA - 4 oz Buy 2 bottles, price each	59.00 51.92	44.25 38.94		
80137	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 oz Buy 2 jars, price each	53.00 45.43	39.75 34.07		
80115	COSMESIS HEALING MASK - 2 oz Buy 2 bottles, price each	64.50 56.76	48.38 42.57		
80109	COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz Buy 2 bottles, price each	58.00 51.04	43.50 38.28		
80110	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz Buy 2 bottles, price each	58.00 51.04	43.50 38.28		
80138	COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 4 oz Buy 2 bottles, price each	39.95 38.00	29.96 28.50		
80103	COSMESIS LIFTING & TIGHTENING COMPLEX - 1 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80135	COSMESIS MELATONIN CREAM - 1 oz Buy 2 jars, price each	33.00 27.10	24.75 20.33		
80114	COSMESIS MILD FACIAL CLEANSER - 8 oz Buy 2 bottles, price each	59.00 51.92	44.25 38.94		
80122	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 oz Buy 2 jars, price each	64.00 56.32	48.00 42.24		
80119	COSMESIS PEEL OFF CLEANSING MASK - 2 oz Buy 2 bottles, price each	64.50 56.76	48.38 42.57		
80111	COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz Buy 2 bottles, price each	74.00 65.12	55.50 48.84		
80106	COSMESIS REJUVENATING SERUM - 1 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80112	COSMESIS SKIN LIGHTENING SERUM - 1/2 oz Buy 2 bottles, price each	85.00 74.80	63.75 56.10		

SUB-TOTAL OF COLUMN 5

No.		Retail Each	Member Each	Qty	Total
80130	COSMESIS SKIN STEM CELL SERUM - 1 oz Buy 2 bottles, price each	\$74.00 69.00	\$55.50 51.75		
80116	COSMESIS ULTRA LIP PLUMPER - 1/3 oz Buy 2 bottles, price each	64.00 56.32	48.00 42.24		
80101	COSMESIS ULTRA WRINKLE RELAXER - 1 oz Buy 2 bottles, price each	89.95 79.76	67.46 59.82		
80113	COSMESIS UNDER EYE REFINING SERUM - 1/2 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80104	COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz Buy 2 bottles, price each	74.50 65.56	55.88 49.17		
80129	COSMESIS VITAMIN C SERUM - 1 oz Buy 2 bottles, price each	85.00 74.80	63.75 56.10		
80136	COSMESIS VITAMIN D LOTION - 4 oz Buy 2 bottles, price each	36.00 33.66	27.00 25.25		
80102	COSMESIS VITAMIN K HEALING CREAM - 1 oz Buy 2 bottles, price each	79.50 69.96	59.63 52.47		
00862	CRAN-MAX® - 500 mg, 60 veg. caps Buy 4 bottles, price each	17.50 15.00	13.13 11.25		
01424	CRAN-MAX® with UTIROSE™ (OPTIMIZED) - 60 veg. caps Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00609	CREATINE CAPSULES - 120 caps Buy 4 bottles, price each	10.95 9.25	8.21 6.94		
00610	CREATINE POWDER - 500 grams Buy 4 bottles, price each	29.00 26.63	21.75 19.97		
01096	CREATINE WHEY GLUTAMINE POWDER - 1000 grams (vanilla) Buy 4 bottles, price each	45.00 42.00	33.75 31.50		
~01089	CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch Buy 6 pouches, price each	11.95 11.25	8.96 8.44		
~01090	(ASIAN) CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch Buy 6 pouches, price each	11.95 11.25	8.96 8.44		
01429	CR MIMETIC LONGEVITY FORMULA - 60 veg. caps Buy 4 bottles, price each	39.00 36.00	29.25 27.00		
***CRWAY	CR WAY OPTIMAL HEALTH PROGRAM SOFTWARE	195.00	195.00		
00912	CURCUMIN W/BIOPERINE® (SUPER) - 800 mg, 60 caps Buy 4 bottles, price each	26.00 24.00	19.50 18.00		
00407	CURCUMIN® (SUPER BIO) - 400 mg, 60 veg. caps Buy 4 bottles, price each	35.00 32.00	26.25 24.00		
00064	(L) CYSTEINE - 500 mg, 60 caps Buy 4 bottles, price each	18.95 16.31	14.21 12.23		
D					
01063	DERMA-VITS™ - 90 caps	\$14.99	\$11.24		
01313	DERMAWHEY - 400 mg, 60 caps Buy 4 bottles, price each	65.00 59.00	48.75 44.25		
00856	DHA (BARLEAN'S KID'S) 8 fl. oz (Fruit Punch) Buy 4 bottles, price each	22.00 20.00	16.50 15.00		
00995	DHA 240 - 240 mg, 60 softgels Buy 4 bottles, price each	19.00 17.00	14.25 12.75		
00658	7-KETO® DHEA METABOLITE - 25 mg, 100 caps Buy 4 bottles, price each	28.00 24.00	21.00 18.00		
01271	7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps Buy 4 bottles, price each	40.00 36.00	30.00 27.00		
00607	DHEA - 25 mg, 100 tablets Buy 4 bottles, price each	14.00 11.75	10.50 8.81		

SUB-TOTAL OF COLUMN 6

To order online visit: www.lifeextension.com

Buyers Club Order Form

No.		Retail Each	Member Each	Qty	Total
01250	DHEA COMPLETE - 60 veg. caps Buy 4 bottles, price each	\$48.00 43.20	\$36.00 32.40		
00335	DHEA - 25 mg, 100 caps Buy 4 bottles, price each	15.00 12.50	11.25 9.38		
00454	DHEA - 15 mg, 100 caps Buy 4 bottles, price each	12.00 10.00	9.00 7.50		
00882	DHEA - 50 mg, 60 caps Buy 4 bottles, price each	16.00 14.00	12.00 10.50		
00883	DHEA - 100 mg, 60 caps Buy 4 bottles, price each	22.50 19.00	16.88 14.25		
01358	DIGEST RC - 30 tablets Buy 4 boxes, price each	19.95 17.00	14.96 12.75		
01272	DIGESTIVE ENZYMES (ENHANCED SUPER) - 100 veg. caps Buy 4 bottles, price each	18.95 16.00	14.21 12.00		
01273	DIGESTIVE ENZYMES w/PROBIOTICS (ENHANCED SUPER) - 100 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
00034	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 caps Buy 4 bottles, price each	18.75 16.00	14.06 12.00		
00257	DMAE BITARTRATE - 150 mg, 200 caps Buy 4 bottles, price each	14.00 10.50	10.50 7.88		
00197	DMAE-GINKGO - 100 caps Buy 4 bottles, price each Buy 8 bottles, price each	36.00 30.00 27.50	27.00 22.50 20.63		
00059	DMG - 125 mg, 60 tablets Buy 4 boxes, price each	18.50 17.00	13.88 12.75		
01547	DNA PROTECTION FORMULA - 60 veg. caps Buy 4 bottles, price each	30.00 28.00	22.50 21.00		
00544	DOG MIX - 100 grams powder Buy 4 bottles, price each	19.50 16.00	14.63 12.00		
00321	DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 oz Buy 4 bottles, price each	39.95 32.00	29.96 24.00		
00320	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 oz Buy 4 bottles, price each	24.95 22.00	18.71 16.50		
00376	DR. TUNG'S TONGUE CLEANER Buy 4 bottles, price each	8.45 8.05	6.34 6.04		
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 oz Buy 4 jars, price each	39.95 38.95	29.96 29.21		
00240	DUAL-C - 90 caps Buy 4 bottles, price each	12.00 10.50	9.00 7.88		
E					
00388	ECHINACEA EXTRACT - 250 mg, 60 caps Buy 4 bottles, price each	\$14.35 12.50	\$10.76 9.38		
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 Buy 4 bottles, price each	56.00 52.00	42.00 39.00		
00997	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 60 veg. caps Buy 4 bottles, price each	52.00 46.00	39.00 34.50		
00625	EPA/DHA (MEGA) - 120 softgels Buy 4 bottles, price each	19.95 18.00	14.96 13.50		
01428	ESSENTIAL FAT-SOLUBLE NUTRIENTS - 30 softgels Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
*01042	EUROPEAN LEG SOLUTION DIOSMIN 95 - 600 mg, 30 veg. tabs Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
F					
***01054	FACE MASTER® PLATINUM	\$199.00	\$199.00		
00965	FAST-ACTING JOINT FORMULA - 30 caps Buy 4 bottles, price each	39.00 36.00	29.25 27.00		
20053	FEM DOPHILUS® - 30 caps	25.95	19.46		

SUB-TOTAL OF COLUMN 7

No.		Retail Each	Member Each	Qty	Total
20055	FEM DOPHILUS® - 60 caps	\$39.95	\$29.96		
01064	FEMMENESSENCE MACAPAUSE® - 120 veg. caps	34.99	26.24		
*01311	FERNBLOCK® w/SENDARA™ (ENHANCED) - 30 veg. caps Buy 4 bottles, price each	39.00 35.00	29.25 26.25		
00229	FIBER FOOD CAPS - 200 caps Buy 4 bottles, price each Buy 10 bottles, price each	15.00 12.50 11.90	11.25 9.38 8.93		
00228	FIBER FOOD POWDER - 300 grams Buy 4 bottles, price each Buy 10 bottles, price each	15.00 12.50 11.90	11.25 9.38 8.93		
00718	FIBRINOGEN RESIST™ - 30 veg. caps Buy 4 bottles, price each	49.00 44.00	36.75 33.00		
00873	FLAXSEED POWDER (HI-LIGNAN® NUTRI-FLAX®) - 16 oz powder	9.95	7.46		
01200	FLORASTOR® - 250 mg, 50 caps	55.15	41.36		
01212	FLUSH + BE FIT - 2- week cleanse for women	29.99	22.49		
01312	FOLATE (OPTIMIZED) (L-METHYLFOLATE) 1000 mcg - 100 veg. caps Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
00347	FOLIC ACID + B12 CAPSULES - 200 caps Buy 4 bottles, price each	10.50 9.50	7.88 7.13		
00300	FORSKOLIN - 10 mg, 60 caps Buy 4 bottles, price each	15.00 12.50	11.25 9.38		
00993	FUCOXANTHIN-SLIM™ - 90 softgels Buy 4 bottles, price each	44.00 39.00	33.00 29.25		

G

00127	GABA POWDER - 100 grams Buy 4 bottles, price each	\$23.75 22.50	\$17.81 16.88		
00559	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels Buy 4 bottles, price each	42.00 37.00	31.50 27.75		
00759	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 60 softgels Buy 4 bottles, price each	32.00 29.00	24.00 21.75		
00117	GELATIN CAPSULES - 1000 empty caps size "00" Buy 4 bags, price each	19.00 18.00	14.25 13.50		
01301	GH PITUITARY SUPPORT DAY FORMULA - 120 vegetarian tabs Buy 4 bottles, price each	48.00 44.00	36.00 33.00		
01302	GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps Buy 4 bottles, price each	25.00 22.50	18.75 16.88		
01228	GINGER FORCE - 60 softgels	29.95	22.46		
00778	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 caps Buy 2 bottles, price each	46.00 43.50	34.50 32.63		
00504	GINKGO EXTRACT (SUPER) - 120 mg, 100 caps Buy 4 bottles, price each	29.00 26.50	21.75 19.88		
01032	(PANAX RED) GINSENG - 60 veg. caps	29.99	22.49		
00756	GLA WITH SESAME LIGNANS (MEGA) - 60 softgels Buy 4 bottles, price each	19.50 18.00	14.63 13.50		
00345	(L) GLUTAMINE CAPSULES - 500 mg, 100 caps Buy 4 bottles, price each	14.95 13.50	11.21 10.13		
00141	(L)-GLUTAMINE POWDER - 100 grams Buy 4 bottles, price each	19.00 16.88	14.25 12.66		
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps Buy 4 bottles, price each	38.00 32.00	28.50 24.00		
00512	GLUCOFIT™ - 100 softgels Buy 4 bottles, price each	28.00 25.00	21.00 18.75		

SUB-TOTAL OF COLUMN 8

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

APRIL 2011

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
G CONTINUED					
00113	GLUTATHIONE, CYSTEINE & C - 750 mg, 100 caps Buy 4 bottles, price each	\$18.00 16.00	\$13.50 12.00		
00314	L-GLUTATHIONE (MEGA) - 250 mg, 60 caps Buy 4 bottles, price each	35.95 32.36	26.96 24.27		
00795	GLYCINE - 1000 mg, 100 caps Buy 4 bottles, price each	12.00 10.80	9.00 8.10		
00128	GLYCINE POWDER - 300 grams Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
01091	GRAPE EXTRACT w/RESVERATROL (WHOLE) - 60 veg. caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
01411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE -100 mg, 60 veg. caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
00953	GREEN TEA EXTRACT (MEGA) - lightly caffeinated - 100 veg. caps Buy 4 bottles, price each	28.00 26.50	21.00 19.88		
00954	GREEN TEA EXTRACT (MEGA) - decaffeinated - 100 veg. caps Buy 4 bottles, price each	28.00 26.50	21.00 19.88		
H					
01074	5 HTP - 100 mg, 60 caps	\$27.95	\$20.96		
00010	HAIR CONDITIONER - 16 oz Buy 4 bottles, price each	6.00 4.50	4.50 3.38		
00230	HCA - 90 caps Buy 4 bottles, price each	18.00 15.50	13.50 11.63		
00800	HOMOCYSTEINE RESIST - 100 caps Buy 4 bottles, price each	24.00 21.60	18.00 16.20		
00067	HOODIA GORDONII - 60 caps	14.00	10.50		
00627	HUPERZINE A w/NATURAL VITAMIN E - 50 mcg, 60 caps Buy 4 bottles, price each	27.95 24.00	20.96 18.00		
00661	HYDRODERM ® - 1 oz Buy 2 bottles, price each	79.95 65.33	59.96 49.00		
I					
^ 01060	i26 HYPERIMMUNE EGG - 140 grams powder	\$49.99	\$42.00		
^ 01319	i26 HYPERIMMUNE EGG - 135 capsules	31.99	25.59		
^ 01318	i26 HYPERIMMUNE EGG CHEWABLES - (vanilla) 45 tablets	31.99	25.59		
01065	IDEAL BOWEL SUPPORT 299V - 30 veg. caps	21.95	16.46		
00955	IMMUNE PROTECT w/PARACTIN ® - 30 veg. caps Buy 4 bottles, price each	29.50 26.55	22.13 19.91		
01049	INNERPOWER ™ - 555 grams powder	42.00	31.50		
00155	INOSINE - 500 mg, 60 caps Buy 4 bottles, price each	22.95 21.00	17.21 15.75		
00109	INOSITOL CAPSULES - 500 mg, 100 caps Buy 4 bottles, price each	14.99 13.79	11.24 10.34		
00410	INOSITOL CAPSULES - 1000 mg, 360 caps Buy 4 bottles, price each	48.00 43.75	36.00 32.81		
00108	INOSITOL POWDER - 100 grams Buy 4 bottles, price each	18.00 16.88	13.50 12.66		
01021	INTACT DIGEST ™ - 8 fl oz Buy 4 bottles, price each	35.00 33.00	26.25 24.75		
01292	INTEGRA-LEAN ® IRVINGIA - 150 mg, 60 veg. caps Buy 4 bottles, price each	34.00 30.00	25.50 22.50		
01002	IODORAL ® - 180 caps	50.00	37.50		
00563	IRON PROTEIN PLUS - 300 mg, 100 caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
01492	IRVINGIA w/PHASE 3 ™ - 120 veg. caps CALORIE CONTROL COMPLEX (OPTIMIZED) Buy 4 bottles, price each	64.00 60.00	48.00 45.00		

SUB-TOTAL OF COLUMN 9

No.		Retail Each	Member Each	Qty	Total
J, K					
00056	JARRO-DOPHILUS EPS ™ - 60 veg. caps	\$21.95	\$16.46		
01224	K w/ADVANCED K2 COMPLEX (SUPER) - 90 softgels Buy 4 bottles, price each	26.00 23.00	19.50 17.25		
01050	(NKO) KRILL OIL - 60 softgels	33.95	25.46		
00316	KYOLIC ® GARLIC FORMULA 102 - 350 mg, 200 caps Buy 4 bottles, price each	23.95 20.50	17.96 15.38		
00214	KYOLIC ® GARLIC FORMULA 105 - 200 caps Buy 4 bottles, price each	22.95 18.25	17.21 13.69		
00789	KYOLIC ® RESERVE - 600 mg, 120 caps Buy 4 bottles, price each	24.75 21.45	18.56 16.09		
L					
00513	LACTOFERRIN (APOLACTOFERRIN) CAPS - 60 caps Buy 4 bottles, price each	\$40.00 36.00	\$30.00 27.00		
00017	LAVILIN UNDERARM DEODORANT - 12.5 grams cream Buy 4 jars, price each	15.00 13.75	11.25 10.31		
00020	LECITHIN - 16 oz. granules Buy 4 jars, price each	15.00 12.50	11.25 9.38		
00019	LECITHIN w/B5 AND BHA - 16 oz. granules Buy 4 jars, price each	15.00 12.50	11.25 9.38		
01538	LIFE EXTENSION MIX ™ - 315 veg. tablets Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01555	LIFE EXTENSION MIX ™ - 315 tablets Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01557	LIFE EXTENSION MIX ™ w/EXTRA NIACIN - 315 tablets Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01554	LIFE EXTENSION MIX ™ - 490 caps Buy 4 bottles, price each Buy 10 bottles, price each	110.00 98.00 85.00	82.50 73.50 63.75		
01556	LIFE EXTENSION MIX ™ POWDER - 14.81 oz Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 72.00	73.50 64.50 54.00		
01565	LIFE EXTENSION MIX ™ - 315 tablets w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01567	LIFE EXTENSION MIX ™ w/EXTRA NIACIN 315 tablets w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 69.50	73.50 64.50 52.13		
01564	LIFE EXTENSION MIX ™ - 490 caps w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	110.00 98.00 85.00	82.50 73.50 63.75		
01566	LIFE EXTENSION MIX ™ POWDER - 14.81 oz w/o copper Buy 4 bottles, price each Buy 10 bottles, price each	98.00 86.00 72.00	73.50 64.50 54.00		
00263	LIFE FLORA ™ - 300 mg, 120 caps Buy 4 bottles, price each	20.50 18.75	15.38 14.06		

SUB-TOTAL OF COLUMN 10

No.		Retail Each	Member Each	Qty	Total
01314	LIFESHIELD® IMMUNITY™ - 60 veg. caps	\$39.95	\$29.96		
00939	5-LOXIN® - 75 mg, 100 veg. caps	19.50	14.63		
	Buy 4 bottles, price each	17.25	12.94		
01013	L-LYSINE - 620 mg, 100 caps	9.00	6.75		
	Buy 4 bottles, price each	8.00	6.00		
00129	L-LYSINE POWDER - 300 grams	16.00	12.00		
	Buy 4 bottles, price each	13.75	10.31		
01470	LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE - 120 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01017	LUSTRE™ - 90 tablets	17.50	13.13		
	Buy 4 bottles, price each	15.50	11.63		
00455	LYCOPENE EXTRACT (MEGA) - 15 mg, 90 softgels	35.00	26.25		
	Buy 4 bottles, price each	30.00	22.50		
M					
01044	MAGNESIUM CAPS - 500 mg, 100 caps	\$9.50	\$7.13		
	Buy 4 bottles, price each	8.00	6.00		
00502	MAGNESIUM CITRATE - 160 mg, 100 caps	9.00	6.75		
	Buy 4 bottles, price each	7.50	5.63		
00704	MAITAKE™ SX-FRACTION - 90 veg. tablets	49.95	37.46		
00547	MELATONIN - 300 mcg, 100 caps	5.75	4.31		
	Buy 4 bottles, price each	5.00	3.75		
01083	MELATONIN - 500 mcg, 200 veg. caps	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
00329	MELATONIN - 1 mg, 60 caps	5.00	3.75		
	Buy 4 bottles, price each	4.63	3.47		
00330	MELATONIN - 3 mg, 60 caps	8.00	6.00		
	Buy 4 bottles, price each	6.88	5.16		
01086	MELATONIN - 3 mg, 60 time-release veg. caps	10.50	7.88		
	Buy 4 bottles, price each	9.38	7.04		
00331	MELATONIN - 10 mg, 60 caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
00332	MELATONIN - 3 mg, 60 lozenges	8.00	6.00		
	Buy 4 bottles, price each	6.88	5.16		
01087	MELATONIN TIME RELEASE - 300 mcg, 100 veg. caps	6.25	4.69		
	Buy 4 bottles, price each	5.63	4.22		
01088	MELATONIN TIME RELEASE - 750 mcg, 60 veg. caps	5.75	4.31		
	Buy 4 bottles, price each	5.00	3.75		
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		
	Buy 4 bottles, price each	8.00	6.00		
00537	METHYLCOBALAMIN - 5 mg, 60 lozenges (vanilla)	32.00	24.00		
	Buy 4 bottles, price each	25.00	18.75		
	Buy 10 bottles, price each	23.00	17.25		
00709	MIGRA-EEZE™ (BUTTERBUR) - 60 softgels	29.50	22.13		
	Buy 4 bottles, price each	26.33	19.75		

SUB-TOTAL OF COLUMN 11

No.		Retail Each	Member Each	Qty	Total
00702	MILK THISTLE (SILYMARIN) (OPTIMIZED) - 100 caps	\$42.00	\$31.50		
	Buy 4 bottles, price each	38.00	28.50		
00623	MINERAL FORMULA FOR MEN - 100 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 12 bottles, price each	10.83	8.13		
00624	MINERAL FORMULA FOR WOMEN - 100 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
	Buy 12 bottles, price each	10.83	8.13		
01315	MIRAFORTE w/STANDARDIZED LIGNANS (SUPER) - 120 caps	62.00	46.50		
	Buy 4 bottles, price each	56.00	42.00		
01569	MITOCHONDRIAL BASICS w/BIOPOQ™ - 30 caps	52.00	39.00		
	Buy 4 bottles, price each	46.00	34.50		
01568	MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPOQ™ - 120 caps	94.00	70.50		
	Buy 4 bottles, price each	84.00	63.00		
00803	MIST ORAL III w/COQ10 - 2 fl oz	28.00	21.00		
	Buy 4 bottles, price each	25.33	19.00		
00065	MK-7 - 90 mcg, 60 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
01279	MOUTHWASH W/POMEGRANATE - 16 oz	18.50	13.88		
	Buy 4 bottles, price each	17.00	12.75		
00451	MSM (METHYLSULFONYLMETHANE) - 1000 mg, 100 caps	14.00	10.50		
	Buy 4 bottles, price each	11.95	8.96		
N					
00215	N-ACETYL CYSTEINE - 600 mg, 60 caps	\$14.00	\$10.50		
	Buy 4 bottles, price each	13.50	10.13		
00168	NAPCA W/ALOE VERA - 8 fl oz	10.00	7.50		
	Buy 4 bottles, price each	9.15	6.86		
00066	NATTOKINASE - 60 softgels	24.98	18.74		
00891	NATURAL APPETITE CONTROL - 90 softgels	28.00	21.00		
	Buy 4 bottles, price each	25.20	18.90		
00984	NATURAL BP MANAGEMENT - 60 tablets	42.00	31.50		
	Buy 4 bottles, price each	37.80	28.35		
00913	NATURAL ESOPHAGUARD - 10 softgels	19.95	14.96		
	Buy 2 boxes, price each	19.00	14.25		
00712	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 60 caplets	38.00	28.50		
	Buy 4 bottles, price each	33.00	24.75		
01221	NATURAL FEMALE SUPPORT - 30 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
01471	NATURAL GLUCOSE ABSORPTION CONTROL - 60 veg. caps	39.00	29.25		
	Buy 4 bottles, price each	36.00	27.00		
00698	NATURAL RELIEF 1222™ - 2 oz	28.00	21.00		
	Buy 4 tubes, price each	25.00	18.75		
01084	NATURAL SLEEP® - 3 mg, 60 veg. caps	12.99	9.74		
	Buy 4 bottles, price each	10.00	7.50		
01507	NATURAL SLEEP® (ENHANCED) W/ MELATONIN - 30 caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01511	NATURAL SLEEP® (ENHANCED) W/O MELATONIN - 30 caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		

SUB-TOTAL OF COLUMN 12

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail Each	Member Each	Qty	Total
N CONTINUED					
01085	NATURAL SLEEP MELATONIN® - 5 mg, 60 veg. caps	\$18.00	\$13.50		
	Buy 4 bottles, price each	16.00	12.00		
00987	NATURAL STRESS RELIEF - 30 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	24.00	18.00		
01076	NEW FACE SOLUTION - 1.7 oz bottle	54.00	40.50		
	Buy 4 bottles, price each	49.00	36.75		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps	19.00	14.25		
	Buy 4 bottles, price each	17.00	12.75		
01035	NUTRIM - 170 grams powder	25.95	19.46		
00523	N-ZIMES™ - 270 caps	23.90	17.93		
	Buy 4 bottles, price each	22.00	16.50		
O					
00104	OCTACOSANOL - 8000 mcg, 60 caps	\$17.99	\$13.49		
	Buy 4 bottles, price each	15.74	11.81		
01483	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 60 softgels	18.00	13.50		
	Buy 4 bottles, price each	16.00	12.00		
01482	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 120 softgels	32.00	24.00		
	Buy 4 bottles, price each	28.00	21.00		
	Buy 10 bottles, price each	24.90	18.68		
01484	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (SUPER) - 120 enteric coated softgels	34.00	25.50		
	Buy 4 bottles, price each	31.00	23.25		
	Buy 10 bottles, price each	28.00	21.00		
01501	ONE-PER-DAY - 60 vegetarian tablets	19.95	14.96		
	Buy 4 bottles, price each	18.00	13.50		
00717	ONLY TRACE MINERALS - 90 caps	15.00	11.25		
	Buy 4 bottles, price each	12.50	9.38		
00915	OPTIZINC® - 30 mg, 90 veg. caps	5.95	4.46		
	Buy 4 bottles, price each	5.00	3.75		
01070	ORGANIC TOTAL BODY CLEANSE™ - 14-day supply	34.99	26.24		
00043	L-ORNITHINE - 500 mg, 100 caps	24.95	18.71		
	Buy 4 bottles, price each	20.00	15.00		
P					
00107	PABA CAPS - 500 mg, 100 caps	\$13.99	\$10.49		
	Buy 4 bottles, price each	12.33	9.25		
00073	PANCREATIN - 500 mg, 50 caps	11.99	8.99		
	Buy 4 bottles, price each	10.99	8.24		
00923	PEAK ATP® WITH GLYCO-CARN® - 60 tablets	59.00	44.25		
	Buy 4 bottles, price each	56.00	42.00		
00342	PECTA SOL-C® MODIFIED CITRUS PECTIN - 454 grams powder	99.95	74.96		
	Buy 4 jars, price each	95.70	71.78		
01080	PECTA SOL-C® MODIFIED CITRUS PECTIN - 270 veg. caps	69.95	52.46		
00673	PGX™ SOLUBLE FIBER BLEND (WELLBETX®) -180 caps	34.95	26.21		
00865	PHARMAGABA™ - 60 chewable tablets	29.95	22.46		
	Buy 4 bottles, price each	27.00	20.25		
01320	PHOSCHOL® - 900 mg, 100 softgels	69.45	52.09		
00368	PHOSPHATIDYLSERINE CAPS - 100 mg, 100 caps	54.00	40.50		
	Buy 4 bottles, price each	48.00	36.00		
00614	PILL CUTTER/GRINDER	11.95	8.96		
00561	POLICOSANOL - 10 mg, 60 tablets	24.00	18.00		
	Buy 6 bottles, price each	18.00	13.50		

SUB-TOTAL OF COLUMN 13

No.		Retail Each	Member Each	Qty	Total
01423	POMEGRANATE™ (FULL-SPECTRUM) - 30 softgels	\$24.00	\$18.00		
	Buy 4 bottles, price each	21.00	15.75		
00956	POMEGRANATE EXTRACT - 30 veg. caps	19.50	14.63		
	Buy 4 bottles, price each	17.55	13.16		
00957	POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid	25.95	19.46		
	Buy 4 bottles, price each	24.00	18.00		
00577	POTASSIUM IODIDE - 1 box, 14 tablets	6.95	5.21		
	Buy 4 boxes, price each	5.25	3.94		
01500	PQQ CAPS W/BIO-PQQ™ - 10 mg, 30 veg. caps	24.00	18.00		
	Buy 4 bottles, price each	22.00	16.50		
00302	PREGNENOLONE - 50 mg, 100 caps	24.00	18.00		
	Buy 4 bottles, price each	19.00	14.25		
00700	PREGNENOLONE - 100 mg, 100 caps	26.00	19.50		
	Buy 4 bottles, price each	22.50	16.88		
*01373	PRELOX® NATURAL SEX FOR MEN® - 60 tablets	50.00	37.50		
	Buy 4 bottles, price each	45.00	33.75		
00571	PRIMAL DEFENSE™ - 90 caplets	49.95	37.46		
	Buy 4 bottles, price each	48.50	36.38		
01019	PRIMAL DEFENSE™ - 180 caplets	78.95	59.21		
00525	PROBOOST THYMIC PROTEIN A™ - 4 mcg, 30 packets	72.00	54.00		
	Buy 4 boxes, price each	70.00	52.50		
00869	PRO FEM CREAM - 2 fl oz (Progesterone Cream)	32.00	24.00		
	Buy 4 bottles, price each	29.00	21.75		
01020	PROGREENS® - 15 stick pack	22.50	16.88		
01072	PRO M INTERNAL DEODORIZER - 500 mg, 100 veg. caps	28.00	21.00		
	Buy 4 bottles, price each	25.00	18.75		
**01495	PROSTATE FORMULA W/ 5-LOXIN® STAND. LIGNANS (ULTRA NAT) -60 softgels	38.00	28.50		
	Buy 4 bottles, price each	35.00	26.25		
	Buy 12 bottles, price each	32.00	24.00		
01092	PROTEIN - VANILLA - (Enhanced Life Extension) -1000 grams powder	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
01093	PROTEIN - CHOCOLATE - (Enhanced Life Extension) -1000 grams powder	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
01094	PROTEIN - NATURAL - (Enhanced Life Extension) -1000 grams powder	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
01095	PROTEIN - BERRY - (Enhanced Life Extension) -1000 grams powder	38.00	28.50		
	Buy 4 bottles, price each	36.00	27.00		
00290	PROTEIN - VANILLA - (Designer Whey) 2 lbs powder	42.49	31.87		
	Buy 4 bottles, price each	38.50	28.88		
00282	PROTEIN - CHOCOLATE - (Designer Whey) 2 lbs powder	42.49	31.87		
	Buy 4 bottles, price each	38.50	28.88		
00283	PROTEIN - NATURAL - (Designer Whey) 2 lbs powder	42.49	31.87		
	Buy 4 bottles, price each	38.50	28.88		
01508	PTEROPURE™ - 50 mg Pterostilbene 60 veg. caps	32.00	24.00		
	Buy 4 bottles, price each	30.00	22.50		
01056	PURE-GAR® - 200 caps	24.95	18.71		
	Buy 4 bottles, price each	21.00	15.75		
01075	PURE PLANT PROTEIN - Natural Vanilla 450 grams powder	36.00	27.00		
	Buy 4 jars, price each	33.00	24.75		
01209	PUMPKIN SEED EXTRACT (WATER-SOLUBLE) - 60 veg. caps	20.00	15.00		
	Buy 4 bottles, price each	18.00	13.50		
01210	PUMPKIN SEED EXT w/SOY ISOFLAVONES (WATER-SOLUBLE) - 60 veg. caps	22.00	16.50		
	Buy 4 bottles, price each	20.00	15.00		
01031	PYCNOGENOL® - 60 veg. caps	86.95	65.21		

SUB-TOTAL OF COLUMN 14

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No.		Retail Each	Member Each	Qty	Total
P CONTINUED					
01217	PYRIDOXAL 5'-PHOSPHATE - 100 mg, 60 veg. caps Buy 4 bottles, price each	\$22.00 19.80	\$16.50 14.85		
Q, R					
01309	QUERCETIN (OPTIMIZED) - 250 mg, 60 veg. caps Buy 4 bottles, price each	\$18.00 17.00	\$13.50 12.75		
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 - 30 veg. tablets	21.50	16.13		
00605	REGIMINT - 60 enteric-coated caps Buy 4 bottles, price each	19.95 18.67	14.96 14.00		
00448	REJUVENEX® BODY LOTION - 6 oz Buy 4 tubes, price each Buy 8 tubes, price each	24.00 19.80 17.00	18.00 14.85 12.75		
00918	REJUVENEX® FACTOR - 1.7 oz airless pump Buy 2 bottles, price each Buy 4 bottles, price each Buy 8 bottles, price each	65.00 60.00 55.00 49.91	48.75 45.00 41.25 37.43		
01220	REJUVENEX® (ULTRA) - 2 oz Buy 2 jars, price each Buy 4 jars, price each Buy 8 jars, price each	52.00 48.00 44.00 39.93	39.00 36.00 33.00 29.95		
00676	REJUVENIGHT (ULTRA) - 2 oz Buy 4 jars, price each	39.95 36.00	29.96 27.00		
00706	REJUVENIGHT w/PROGESTERONE (ULTRA) - 2 oz Buy 4 jars, price each	42.00 38.00	31.50 28.50		
01413	RESVERATROL W/PTEROSTILBENE - 20 mg, 60 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
01410	RESVERATROL W/PTEROSTILBENE - 100 mg, 60 veg. caps Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
01430	RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES (OPTIMIZED) - 250 mg, 60 veg. caps Buy 4 bottles, price each	46.00 41.33	34.50 31.00		
00889	RHODIOLA EXTRACT - 250 mg, 60 veg. caps Buy 4 bottles, price each	11.75 10.58	8.81 7.94		
00972	(D) RIBOSE POWDER - 150 grams Buy 4 jars, price each	27.50 24.75	20.63 18.56		
01473	(D) RIBOSE TABLETS - 100 veg. tabs Buy 4 bottles, price each	32.00 28.00	24.00 21.00		
01208	R-LIPOIC ACID (SUPER) - 300 mg, 60 veg. caps Buy 4 bottles, price each	49.00 45.00	36.75 33.75		
00070	RNA CAPSULES - 500 mg, 100 caps Buy 4 bottles, price each	17.95 16.16	13.46 12.12		
00917	ROSMARINIC ACID EXTRACT - 60 veg. caps Buy 4 bottles, price each	59.00 53.00	44.25 39.75		
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/SATIREAL (OPTIMIZED) - 60 veg. caps Buy 4 bottles, price each	36.00 32.00	27.00 24.00		
*00573	SAMBU® GUARD - 175 ml	17.49	13.99		
00358	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 20 enteric coated tablets Buy 8 boxes, price each	17.00 15.00	12.75 11.25		

SUB-TOTAL OF COLUMN 15

No.		Retail Each	Member Each	Qty	Total
00453	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets Buy 4 bottles, price each	\$40.00 35.00	\$30.00 26.25		
00557	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets Buy 6 boxes, price each	32.00 25.00	24.00 18.75		
01055	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 50 enteric coated tablets Buy 4 bottles, price each	72.00 66.00	54.00 49.50		
01043	SEA-IODINE™ - 1000 mcg, 60 veg. caps Buy 4 bottles, price each	8.00 7.20	6.00 5.40		
00046	SELENIUM - 2 oz dropper bottle Buy 4 bottles, price each	9.95 9.45	7.46 7.09		
00567	SE-METHYL L-SELENOCYSTEINE - 200 mcg, 100 caps Buy 4 bottles, price each	12.00 11.00	9.00 8.25		
00318	SERRAFLAZYME - 100 tablets Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00011	SHAMPOO - 16 fl oz Buy 4 bottles, price each	6.00 4.75	4.50 3.56		
00284	SHARK LIVER OIL (NORWEGIAN) - 1000 mg, 30 softgels Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00184	SILYMARIN - 100 mg, 50 caps Buy 4 bottles, price each	9.25 8.25	6.94 6.19		
01502	SKIN RESTORING CERAMIDES w/LIPOWHEAT™ - 30 liquid caps Buy 4 bottles, price each	25.00 23.00	18.75 17.25		
00961	SODZYME® w/GLISODIN® AND WOLFBERRY - 90 veg. caps Buy 4 bottles, price each	28.00 24.00	21.00 18.00		
00657	SOLARSHIELD SUNGLASSES - 1 pair smoke color Buy 2 pairs, price each	12.99 11.50	9.74 8.63		
01097	SOY EXTRACT (ULTRA) - 150 veg. caps Buy 4 bottles, price each	87.00 78.00	65.25 58.50		
00286	SOY PROTEIN CONCENTRATE - 16 oz of powder Buy 4 jars, price each	12.00 10.63	9.00 7.97		
01099	STABILIMUM® 200 - 30 caps	30.00	22.50		
00432	STEVIA EXTRACT - 100 packets, 1 gram each Buy 4 boxes, price each	9.95 9.00	7.46 6.75		
00351	ST. JOHN'S WORT EXTRACT - 300 mg, 60 caps Buy 4 bottles, price each	10.98 10.00	8.24 7.50		
00327	ST. JOHN'S WORT EXTRACT (PLANETARY) - 600 mg, 60 tablets Buy 4 bottles, price each	16.75 13.85	12.56 10.39		
01476	STRONTIUM - 750 mg, 90 veg. caps Buy 4 bottles, price each	20.00 18.00	15.00 13.50		
00971	SUN PROTECTION SPRAY W/BETA GLUCAN - SPF30 - 6 oz Buy 4 bottles, price each	14.95 13.50	11.21 10.13		
00747	SUNGLASSES (OVERXCAST POLARIZED) - gray color, large Buy 2 pairs, price each	27.00 21.00	20.25 15.75		
00748	SUNGLASSES (OVERXCAST POLARIZED) - gray color, medium Buy 2 pairs, price each	27.00 21.00	20.25 15.75		
00758	SUPER ABSORBABLE SOY ISOFLAVONES - 60 caps Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
01408	SUPER SAW PALMETTO/NETTLE ROOT W/BETA-SITOSTEROL 60 softgels Buy 4 bottles, price each Buy 12 bottles, price each	28.00 26.00 24.00	21.00 19.50 18.00		

SUB-TOTAL OF COLUMN 16

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APRIL 2011

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No.		Retail Each	Member Each	Qty	Total
S CONTINUED					
01407	SUPER SAW PALMETTO W/BETA-SITOSTEROL - 30 softgels Buy 12 bottles, price each	\$15.00 12.00	\$11.25 9.00		
00578	SUPER SELENIUM COMPLEX - 200 mcg, 100 caps Buy 4 bottles, price each Buy 12 bottles, price each	12.00 10.00 9.00	9.00 7.50 6.75		
00674	SYTRINOL™ - 60 softgels Buy 4 bottles, price each	32.00 28.00	24.00 21.00		
T					
TAL•SHI™ COSMETICS • For information please call 1-800-544-4440 or visit www.lifeextension.com					
01062	TART CHERRY - 600 mg, 60 caps	\$18.95	\$14.21		
00199	TAURINE - 1000 mg, 50 caps Buy 4 bottles, price each	8.95 8.00	6.71 6.00		
00133	TAURINE POWDER - 300 grams Buy 4 bottles, price each	20.00 16.88	15.00 12.66		
01304	THEAFLAVIN STANDARDIZED EXTRACT - 30 veg. caps Buy 4 bottles, price each	18.00 16.00	13.50 12.00		
00555	(L) THEANINE - 100 mg, 60 caps Buy 4 bottles, price each	24.00 20.50	18.00 15.38		
01038	THERALAC - 30 caps	44.95	33.71		
00224	THYMIC IMMUNE FACTORS - 100 caps Buy 4 bottles, price each	18.00 14.00	13.50 10.50		
00668	THYROID FORMULA™ (METABOLIC ADVANTAGE) - 100 caps	21.95	16.46		
00349	TMG POWDER - 50 grams Buy 4 bottles, price each	14.00 11.00	10.50 8.25		
00359	TMG - 500 mg, 180 tablets Buy 4 bottles, price each	18.00 15.50	13.50 11.63		
00366	TOCOTRIENOLS - (Rice) 50 mg, 60 softgel caps Buy 4 bottles, price each	39.95 36.00	29.96 27.00		
00781	TOCOTRIENOLS WITH SESAME LIGNANS - 60 softgels Buy 4 bottles, price each	38.00 36.00	28.50 27.00		
01400	TOCOTRIENOLS (SUPER-ABSORBABLE) - 60 softgels Buy 4 bottles, price each	30.00 28.00	22.50 21.00		
01278	TOOTHPASTE - 4 oz (Mint) Buy 4 tubes, price each	9.50 8.67	7.13 6.50		
01274	TOTAL SUN PROTECTION CREAM W/BETA GLUCAN - 4 oz Buy 4 tubes, price each	28.00 25.20	21.00 18.90		
01468	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT - 60 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
01469	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT W/RESVERATROL -60 veg. caps Buy 4 bottles, price each	32.00 29.60	24.00 22.20		
01046	TRIPLE ACTION UNDER EYE REJUVENATOR - 0.5 oz pump Buy 4 boxes, price each	24.00 22.00	18.00 16.50		
00866	TRYPTOPURE® L-TRYPTOPHAN - 500 mg, 90 veg. caps Buy 4 bottles, price each	38.00 34.00	28.50 25.50		
01202	TRYPTOPURE® PLUS (OPTIMIZED) - 90 veg. caps Buy 4 bottles, price each	40.00 36.00	30.00 27.00		
01516	TWO-PER-DAY - 60 veg. tablets Buy 4 bottles, price each	9.95 9.00	7.46 6.75		
01515	TWO-PER-DAY - 120 veg. tablets Buy 4 bottles, price each	18.95 17.00	14.21 12.75		
00326	L-TYROSINE - 500 mg, 100 tablets Buy 4 bottles, price each	12.50 11.42	9.38 8.57		

SUB-TOTAL OF COLUMN 17

No.		Retail Each	Member Each	Qty	Total
U					
* 00310	UDO'S OIL 3-6-9 BLEND - 17 fl oz	\$27.49	\$21.99		
* 00311	UDO'S 3-6-9 OIL BLEND - 180 caps	33.79	27.03		
* 00322	UDO'S CHOICE® WHOLESOME FAST FOOD - 16 oz bottle	27.49	21.99		
01061	ULTIMATE FLORA ADVANCED IMMUNITY PROBIOTICS - 30 caps	29.99	22.49		
V					
00213	VANADYL SULFATE - 7.5 mg, 100 tablets Buy 4 bottles, price each	\$15.00 12.50	\$11.25 9.38		
00252	VELVET DEER ANTLER - 250 mg, 30 caps Buy 4 bottles, price each	36.00 34.00	27.00 25.50		
00408	VENOTONE - 60 caps Buy 4 bottles, price each	18.95 16.00	14.21 12.00		
00427	VINPOCETINE - 5 mg, 100 tablets Buy 4 bottles, price each	18.00 14.00	13.50 10.50		
01033	VISION OPTIMIZER - 90 caps	29.95	22.46		
01098	VITAL GREENS MIX - 319.5 grams powder Buy 4 jars, price each	48.00 44.00	36.00 33.00		
01219	VITAMIN A NUTRISORB - 0.6 fl oz	27.00	20.25		
00091	VITAMIN B1 CAPS - 500 mg, 100 caps Buy 4 bottles, price each	16.99 15.17	12.74 11.38		
00093	VITAMIN B2 CAPS - 100 mg, 100 caps Buy 4 bottles, price each	12.99 11.88	9.74 8.91		
00096	VITAMIN B3 NIACIN - 1000 mg, 100 caps Buy 4 bottles, price each	12.75 12.00	9.56 9.00		
00372	VITAMIN B3 NIACIN - 500 mg, 100 caps Buy 4 bottles, price each	7.65 6.65	5.74 4.99		
00098	VITAMIN B5 - 500 mg, 100 caps (Pantothenic Acid) Buy 4 bottles, price each	10.50 9.38	7.88 7.04		
00556	VITAMIN B6 - 250 mg, 100 caps Buy 4 bottles, price each	12.50 11.00	9.38 8.25		
00361	VITAMIN B12 - 500 mcg, 100 lozenges Buy 4 bottles, price each	8.75 7.25	6.56 5.44		
00927	VITAMIN C WITH DIHYDROQUERCETIN - 1000 mg, 250 tablets Buy 4 bottles, price each	25.50 23.25	19.13 17.44		
00084	VITAMIN C (BUFFERED) POWDER - 454.6 grams Buy 4 bottles, price each	23.95 22.00	17.96 16.50		
00864	VITAMIN D3 - 2000 IU, 1 fl oz Buy 4 bottles, price each	28.00 25.00	21.00 18.75		
00251	VITAMIN D3 - 1000 IU, 250 caps Buy 4 bottles, price each	12.50 11.25	9.38 8.44		
00713	VITAMIN D3 - 5000 IU, 60 caps Buy 4 bottles, price each	11.00 9.90	8.25 7.43		
01418	VITAMIN D3 - 7000 IU, 60 caps Buy 4 bottles, price each	14.00 12.60	10.50 9.45		
01372	VITAMIN D3 w/SEA-IODINE™ - 5000 IU, 60 veg. caps Buy 4 bottles, price each	14.00 12.50	10.50 9.38		
01472	VITAMINS D AND K w/SEA-IODINE™ - 60 veg. caps Buy 4 bottles, price each	24.00 22.00	18.00 16.50		
00063	VITAMIN E (PURE NATURAL) - 400 IU, 100 caps Buy 4 bottles, price each Buy 10 bottles, price each	18.75 17.25 15.00	14.06 12.94 11.25		

SUB-TOTAL OF COLUMN 18

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No.		Retail Each	Member Each	Qty	Total
01225	VITAMIN K2 (LOW-DOSE) - 45 mcg, 90 softgels	\$18.00	\$13.50		
	Buy 4 bottles, price each	16.00	12.00		
Z					
01585	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN AND C3G (SUPER) - 60 softgels	\$22.00	\$16.50		
	Buy 4 bottles, price each	19.80	14.85		
01586	ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN AND C3G (SUPER) - 60 softgels	42.00	31.50		
	Buy 4 bottles, price each	38.00	28.50		
00061	ZINC LOZENGES - 75 lozenges	9.50	7.13		
	Buy 4 bottles, price each	6.75	5.06		
01051	ZYFLAMEND - 120 softgels	60.95	45.71		
01029	ZYFLAMEND EASYCAPS - 180 softgels	31.95	23.96		

SUB-TOTAL OF COLUMN 19

* These products are not 25% off retail price.

**Not for sale to wholesalers or retail stores.

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

†Due to license restrictions, this product is not for sale to wholesalers outside of the USA or Canada.

††Can only be sold in the USA.

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Don't suffer the harsh side effects of antibiotics.

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ANTIBIOTICS AND THERALAC WORK HAND IN HAND.

Many people taking antibiotics suffer disruption of their intestinal flora, and consequently, their digestive regularity suffers, too. Antibiotics severely diminish helpful probiotic bacteria. Thus, unhelpful flora flourish. One particular adverse bacteria, *Clostridium difficile*, or *C. diff.*, is known to be resistant to antibiotics and can cause diarrhea. The best way to stop the havoc *C. diff.* wreaks is to **overwhelm it with Theralac.**

THERALAC IS CLINICALLY PROVEN TO WORK.

An effective probiotic, Theralac has been proven in a clinical study to **maintain normal intestinal flora while people were on**



antibiotics. In a double-blind, placebo-controlled study subjects took two Theralac capsules daily for two weeks while on the powerful antibiotic Augmentin®. The results were amazing! **The Theralac group saw no disruption of intestinal flora** while the non-Theralac® group experienced substantial disruption.

Theralac is also proven to up-regulate your immune system helping you **avoid getting sick** in the first place. It **helps with nutrient absorption, regulates peristaltic action, and helps maintain normal estrogen levels, cholesterol and glycemic levels** in those already within normal range.

LEADING DOCTORS RECOMMEND THERALAC.

Dr. Russell Blaylock, MD, recommends taking **2-4 Theralac capsules daily while on antibiotics**, continuing for two weeks following antibiotic therapy. And **key doctors of Lyme disease patients** rely on Theralac to

help patients suffering from severe antibiotic associated diarrhea.

So to ensure digestive health while taking antibiotics, order Theralac today by calling **1-800-544-4440** or visit **LifeExtension.com.**

Then take your antibiotics with a clear mind, and intestinal tract.



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A Partnership in Heart Health

New Chapter Zyflamend & LifeExtension Super Omega-3

Multiple Synergistic Components, Whole Body Benefits

Many people think that only joints are affected by inflammation. The truth is that the body's natural inflammatory response affects everyone and every major organ system. Given the link between a healthy inflammation response and whole body health – a source of extensive and ongoing research – a supplement strategy geared toward promoting a healthy inflammation response is as fundamental as a daily multivitamin.* Research at leading medical institutions, including human clinical trials, has demonstrated a unique herbal formulation's ability to promote a safe, natural and healthy response to inflammation.*

Zyflamend® is the #1-selling herbal in the U.S.† for healthy inflammation response.* It contains hundreds of bioactive constituents from ten of the most researched botanicals that promote a healthy inflammatory response and provide multiple health benefits: heart health, healthy aging, joint health, and bone health.*

Zyflamend for Heart Health

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.*

In data presented at the 2008 meeting for the Society for Integrative Oncology, researchers reported the following analysis of data from a Zyflamend human clinical study: "A statistically significant reduction in serum C-reactive protein was... observed after 18 months."

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

Zyflamend
120 Softgels
Item number 01051
Retail Price: ~~\$60.95~~
Member Price: **\$45.71**

Super Omega-3
120 Softgels
Item number 01482
Retail Price: ~~\$32.00~~
Member Price: **\$24.00**



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.

Life Extension's Super Omega-3 is a premium, scientifically-validated fish oil concentrate, derived from sustainable sources, that contains a proprietary, full-spectrum blend of synergistic nutrients to provide scientifically-validated cardioprotective health benefits.

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

To order Zyflamend or Super Omega-3, call
1-800-544-4440 or visit www.LifeExtension.com

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Worn Out to WOW in 2 Weeks!



"Are you fed up with feeling overtired, overstressed, overweight and completely overwhelmed? It's time to take back control of your body and your health! I created **Flush & Be Fit™**, a powerful 3-part cleansing and energizing formula made exclusively for women to target key health concerns like **fatigue, irritability, poor digestion, belly bloat, vaginal yeast** and more.**"

Brenda Watson
Brenda Watson, C.N.C., N.D.
Digestive Care Expert

Flush & Be Fit
Item #01212
Retail Price \$29.99
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Convenient All-in-One Daily Strip-Packs

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- Cleansing Herbs, Enzymes, Probiotics & Nutraceuticals
- Easy-to-take Morning, Midday and Evening Formula
- Convenient All-in-One Daily Strip Packs
- Natural Vegetable Capsules
- No Fillers or Binders

Be the Woman You Want To Be in Just Two Weeks!

To look your best on the outside, Brenda believes you must feel your best on the inside. FLUSH & Be FIT helps you alleviate concerns most women face so you can look, feel and act like the person you want to be.

Morning Pack— Flush & Detox

Detoxifying herbs help stimulate the natural cleansing function of the liver and fuel the lymphatic system.* This can help jumpstart weight loss by eliminating toxins in stored fat, which can contribute to excess fat around hips, thighs and buttocks.*

Concentrated cranberry extract, hibiscus and dandelion support urinary tract health and normal kidney function.*

Afternoon Pack— Energize & Balance

Revitalizing green tea, yerba mate, ginseng and more help boost and sustain energy and alleviate feelings of fatigue.*

Active probiotic cultures promote healthy vaginal flora and help balance yeast levels.*

Effective plant-based enzymes enhance digestion and help relieve occasional bloating and water retention.*

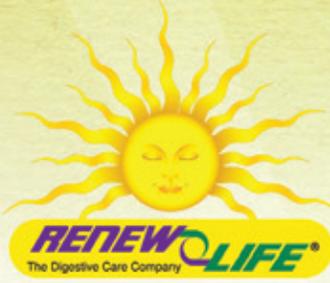
Evening Pack— Cleanse & Eliminate

Gentle yet effective herbal laxative formula promotes bowel regularity and helps relieve occasional constipation.*

Natural laxative herbs gently stimulate a sluggish bowel.*

Hydrating magnesium helps retain water in the bowel, making stools easier to pass.*

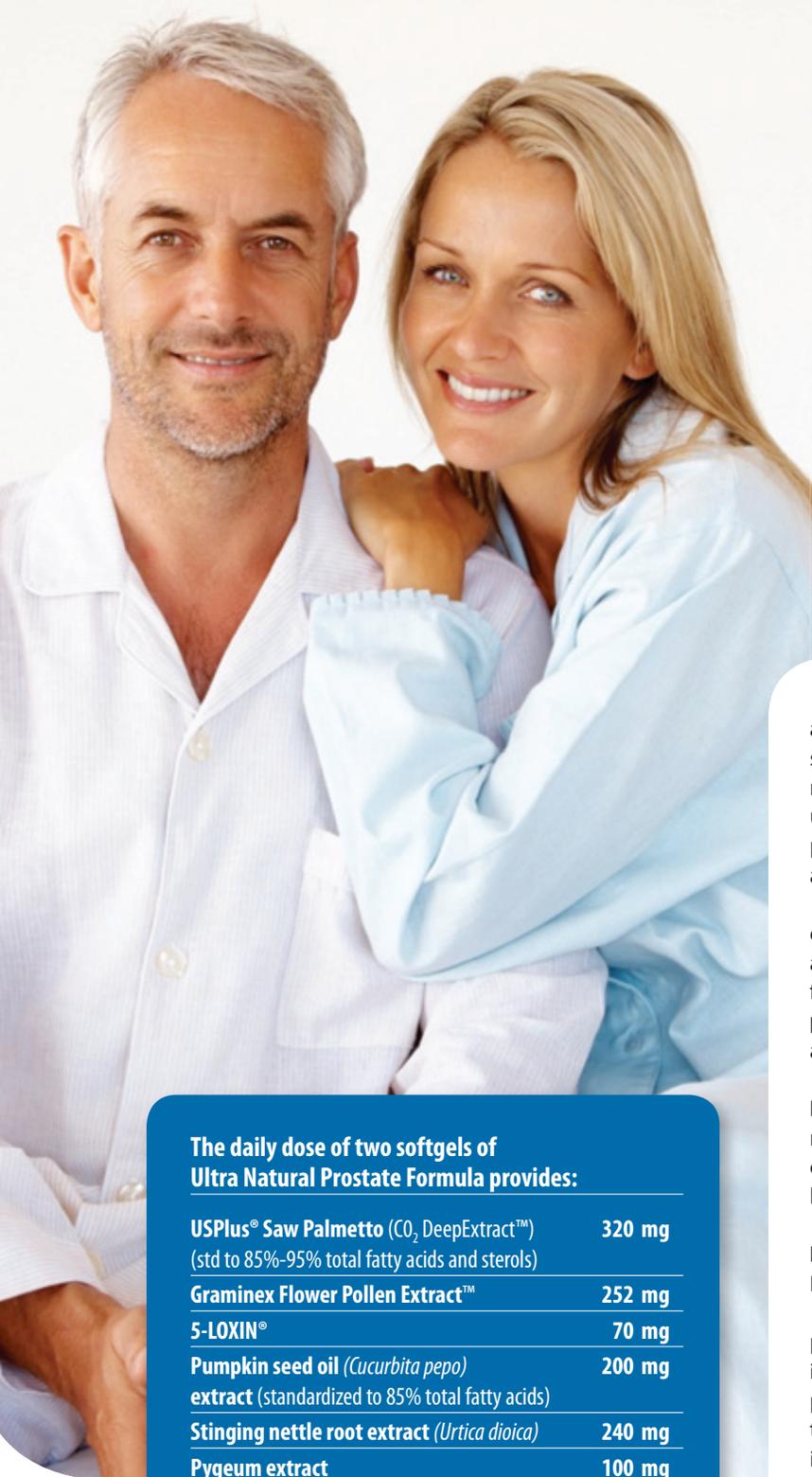
Soothing herbal ingredients help ease elimination.*



To order Flush & Be Fit, call 1-800-544-4440 or visit www.LifeExtension.com



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ULTRA NATURAL PROSTATE FORMULA PROVIDES ULTRA PROTECTION

For a large percentage of men over the age of 50, having a healthy prostate is the key to living a normal life. Dietary supplementation for urinary and prostate health helps men maintain a normal hormonal balance, which promotes normal urinary flow and prostate health. Choosing to support a healthy prostate through supplementation is one of the smartest choices an aging man can make.

Ultra Natural Prostate Formula combines eleven cutting-edge *natural* ingredients that have been scientifically substantiated to protect the prostate gland and maintain its healthy function.* One of the newest additions to the formula is **European pumpkin seed oil extract**, which is rich in **delta-7 sterols and fatty acids**.

The formula provides **saw palmetto extract** and **Graminex Flower Pollen Extract™** to interfere with DHT activity and help regulate inflammatory reactions in the prostate.* **Lycopene** is a carotenoid that has been added to the formula to help maintain healthy DNA gene function in prostate cells.

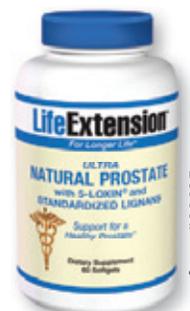
In order to boost its anti-estrogen capabilities, **Ultra Natural Prostate Formula** incorporates **HRMLignan™**, derived from Norway spruce, flax lignans, and **nettle root extract**.

Since normal aging can lead to potentially unsafe levels of prostaglandins in the prostate, **Pygeum africanum** extract is included to help suppress prostaglandins, and thereby promote prostate comfort.* **Beta-sitosterol** has been added because it is the most biologically active component of *pygeum* and enhances its protective effects.

Ultra Natural Prostate Formula also contains **5-LOXIN®** **boswellia extract** to protect against the dangerous enzyme *5-lipoxygenase*, and the mineral **boron** to help slow elevation of prostate-specific antigen (PSA).

The retail price for one bottle of **Ultra Natural Prostate Formula** is \$38. If a member buys four bottles, the price is reduced to **\$26.25** per bottle. If a member buys 12 bottles, the price is reduced to **\$24** per bottle.

Contains soybeans.



Item #01495

The daily dose of two softgels of Ultra Natural Prostate Formula provides:

USPlus® Saw Palmetto (CO ₂ DeepExtract™) (std to 85%-95% total fatty acids and sterols)	320 mg
Graminex Flower Pollen Extract™	252 mg
5-LOXIN®	70 mg
Pumpkin seed oil (<i>Cucurbita pepo</i>) extract (standardized to 85% total fatty acids)	200 mg
Stinging nettle root extract (<i>Urtica dioica</i>)	240 mg
Pygeum extract	100 mg
Lycopene	10 mg
Phytosterol complex (standardized to 26.6% free beta-sitosterol)	678 mg
Proprietary blend of HRMLignan™ Norway Spruce and ActiFlax™ Flax Lignan extracts	20.15 mg
Boron	3 mg

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To order Ultra Natural Prostate Formula, call 1-800-544-4440 or visit www.LifeExtension.com

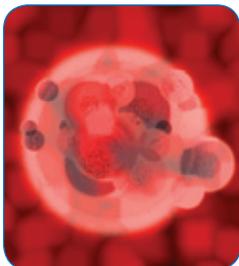
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WHAT'S INSIDE

LifeExtension® Magazine

STEPPING UP AGE- REVERSAL RESEARCH • PAGE 7



A team of Harvard-affiliated scientists has succeeded for the first time in *reversing* advanced degenerative disease in an animal model. Read about new projects **Life Extension Foundation®** is funding to speed up this kind of **age-reversal** research.

HOW INSOMNIA DESTROYS SKIN HEALTH • PAGE 34



Over time, poor sleep degrades skin health and may cause **dermatitis** and **eczema**. The good news is there are nutrients that can restore restful sleep and promote healthy skin.

WHAT EUROPEANS ARE USING TO RESTORE YOUTHFUL SLEEP • PAGE 26



Chronic insomnia strikes nearly **one-third** of Americans. Find out how a natural proprietary compound widely used in **Europe** safely induces relaxation and sleep.

NEW AMBER EXFOLIANT REJUVENATES AGING SKIN • PAGE 46



Microdermabrasion, a popular way to revitalize aging skin in the US, is costly and poses health risks. A novel **amber crystal** exfoliant offers an affordable, safe alternative.

PLUS

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IMMUNE SENESCENCE PARTIALLY REVERSED IN AGED HUMAN CELLS
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