

WHAT'S MISSING FROM VEGETABLE SOUPS?

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

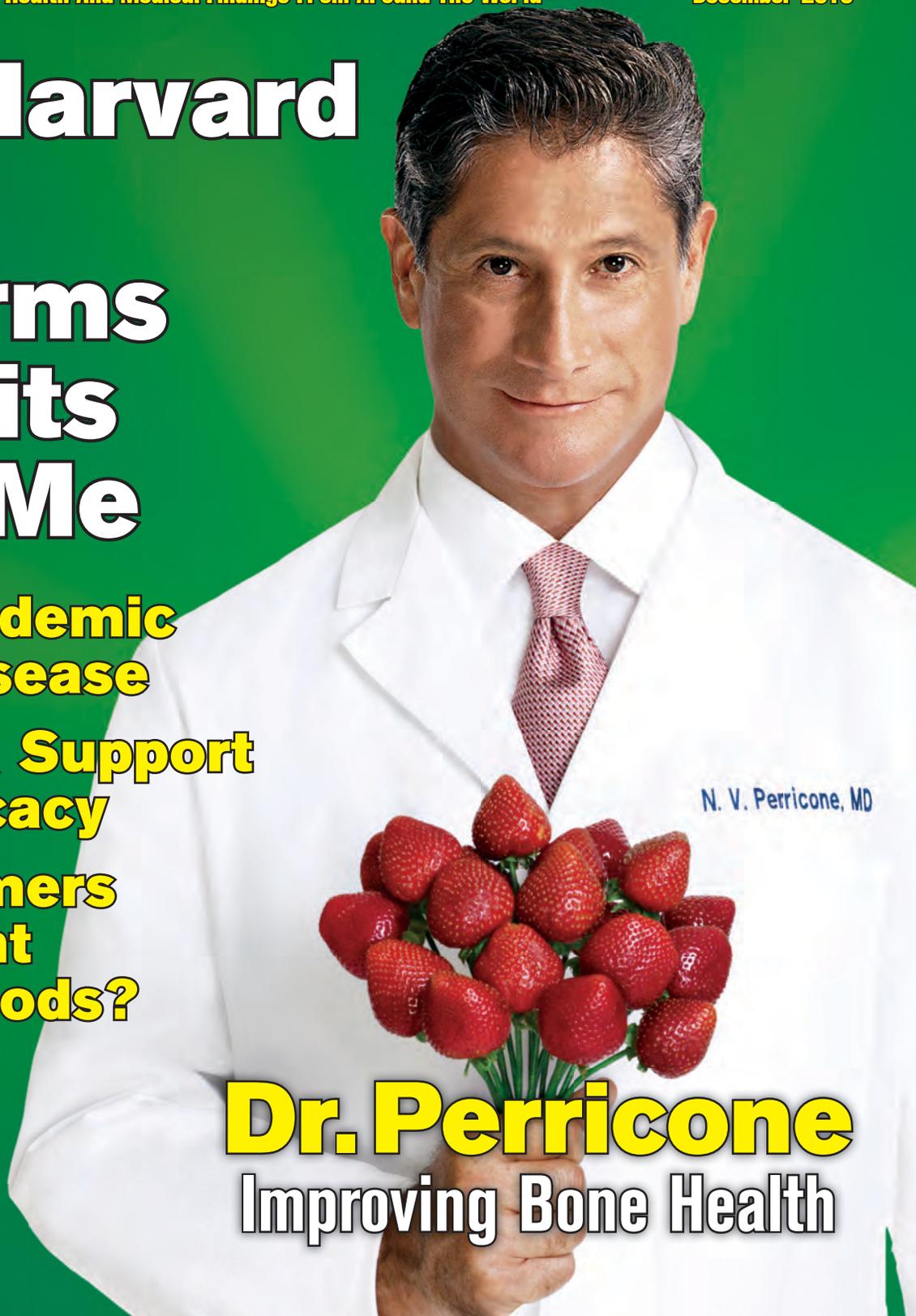
December 2010

New Harvard Study Confirms Benefits of SAME

Hidden Epidemic
of Liver Disease

Fresh Data Support
DHEA Efficacy

Do Consumers
Really Want
Healthy Foods?



N. V. Perricone, MD

Dr. Perricone

Improving Bone Health



Does Your Pharmacy Care if You Live or Die?

Today's chain pharmacies have become drug-dispensing assembly lines. They fill whatever your doctor prescribes or insurance covers, regardless of what is best for your individual needs.

At **Life Extension Pharmacy™** we do things differently. We take advantage of our partnership with the Life Extension Foundation® for intimate knowledge of the peer-reviewed scientific literature about the prescription drugs you take ... including drug interactions, side effects, lower-cost alternatives, and, in some cases, safer and more effective ways to use your medications. It's our mission to preserve **your health and save you money.**

Our Independent Thinking

As well as offering advice on the safety and effectiveness of your prescriptions, our team of pharmacists also explains how they can work synergistically with nutrient and hormone supplements to keep you healthy.

Consider the anti-coagulant drug **Coumadin®** (warfarin) as an example. While most doctors advise patients who are taking **Coumadin®** to avoid vitamin K supplements and vitamin K-containing foods, recent research demonstrates that **Coumadin®** plus low-dose vitamin K supplements (around **45 mcg** a day) can achieve more stable measurement of blood clotting time (the INR test). Even more important is that Coumadin®'s horrendous **side effects** (accelerated atherosclerosis and bone loss) may be preventable in the presence of stable vitamin K levels in the body.

Another problem occurs with drugs prescribed to treat **prostate cancer** (such as **Lupron®**) that deplete the body of **testosterone**. Through our collaboration with the Life Extension Foundation, we can advise patients on the specific steps they should take to protect against the lethal "**Androgen Deprivation Syndrome.**"

Another example is the statin drug **Crestor®**. This high-priced medication is flying out of pharmacies across the country. But should it be? Recent studies reveal that it's not right for everyone who is taking it. Visit www.LifeExtensionRx.com/crestor for our in-depth analysis on the latest Crestor® study.

Tailored Services

So keep this in mind... the **Life Extension Pharmacy™** puts your **welfare first**. If a lower-cost drug may work better for you than an expensive brand name, we're going to recommend it. Combining the Life Extension Foundation's nutraceutical expertise with our pharmacists' in-depth knowledge of pharmaceuticals and customized prescription compounding, **Life Extension Pharmacy™** is committed to helping you get the very best results from your therapy.

Metformin 500-mg (90 Tablets)		
CVS Price \$38.09	Life Extension Rx Price \$14.36*	% Saved 62%
Simvastatin 40-mg (90 Tablets)		
CVS Price \$154.99	Life Extension Rx Price \$21.23*	% Saved 86%

* Prices as of October 15, 2010. Prices subject to change.

Saving Your Money & Your Health

Life Extension Pharmacy™ offers a range of ways to save you money including low-cost compounded drugs, life-saving prescription drugs at greatly discounted prices, and practical suggestions on how to conserve your health care dollars. To see how much we can save you, look at our prices for the statin **simvastatin** and the antidiabetic drug **glyburide** compared with CVS in the table above!

Super Low Prices on Compounded Prescription Drugs

LifeExtensionRx™
The right prescription for savings

Call 1-877-877-9700
today to fill a new prescription or to transfer an existing one.

To find out how you may benefit by transferring your prescriptions, call **1-877-877-9700.**

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

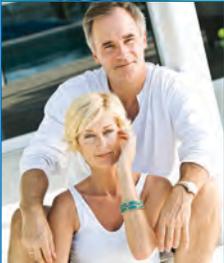


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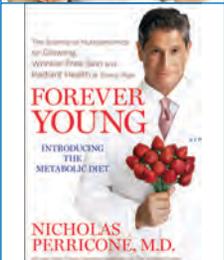
7 DO CONSUMERS REALLY WANT HEALTHY FOODS?

Cruciferous vegetables combat a host of age-related diseases, but you won't find them in most popular "vegetable" soups. Instead, commercial soups are packed with cheap fillers like corn, potatoes, rice, and pasta. Find out about two new cruciferous soups loaded with **cauliflower**, **broccoli**, and **Brussels sprouts** plus **extra-virgin olive oil** with no glucose-spiking starches. The question *Life Extension*® asks is: will typical consumers want them?



38 MORE EVIDENCE OF DHEA'S ANTI-AGING POWER

It's been three years since *Life Extension*® defeated congressional efforts to classify DHEA as a steroid drug—and almost 30 years since we first introduced it to the American public. New data show that this natural compound can thwart metabolic syndrome, halt bone loss, and enhance cognitive function.



52 VITAL IMPORTANCE OF BONE HEALTH

After 35, men and women undergo progressive loss of bone mass unless they take action to prevent it. In an exclusive excerpt from his new book, *Forever Young*, Dr. Nicholas Perricone explores the link between bone health, longevity, and degenerative disease, along with proven methods to preserve bone mass as you age.



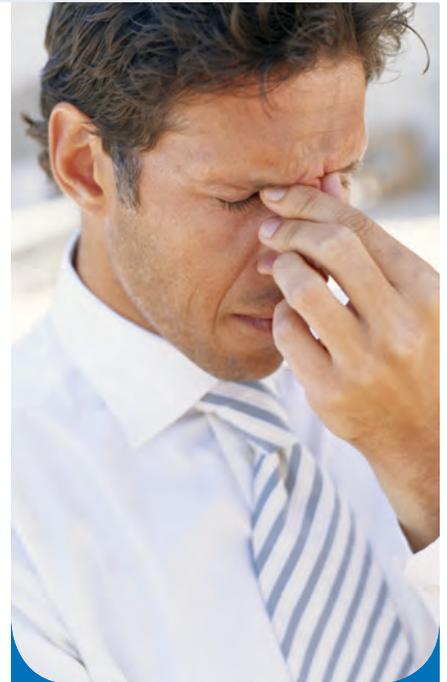
64 PROTECT YOURSELF FROM EPIDEMIC LIVER DISEASE

Roughly **one in three** Americans suffers from a largely silent condition that can progress to full-blown liver failure. Learn the facts about **nonalcoholic fatty liver disease**—along with seven clinically validated, low-cost interventions to protect your liver health.



76 MAINSTREAM MAGAZINES ARE HAZARDOUS TO YOUR HEALTH

When medical ineptitude meets media apathy, the results can be deadly. Here we detail how *Newsweek*® parroted a flawed study from the *Journal of the American Medical Association* on homocysteine's role in heart disease. By ignoring key factors, such as pre-existing *endothelial dysfunction*, these reports proved both inaccurate and *dangerous*.



26 ON THE COVER

NEW HARVARD STUDY CONFIRMS ANTIDEPRESSANT EFFECTS OF SAME

Research funded by the National Institute of Mental Health confirms that *S-adenosylmethionone* or **SAME** exerts potent antidepressant effects when combined with SSRIs. The results of this compelling new human study are detailed, along with SAME's ability to protect against degenerative diseases of the brain, liver, and joints.

DEPARTMENTS



19 IN THE NEWS

Berries prevent age-related cognitive decline; resveratrol improves endothelial function in overweight adults; vitamin B6 alleviates inflammation in arthritis sufferers; anti-inflammatory mechanism of omega-3 discovered; and more.





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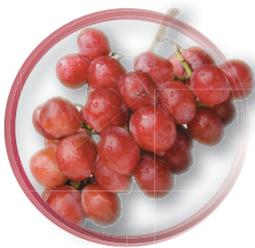
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World's Most Advanced RESVERATROL Formula

In 2003, the **Life Extension Foundation**[®] introduced a standardized extract of **resveratrol** shown to favorably alter genes implicated in the aging process—many of the same genes that respond to **calorie restriction** or **CR**.

Since then, we have gone to extraordinary lengths to identify additional compounds that simulate calorie restriction's ability to trigger youthful **gene expression**—the process by which genes transmit signals that slow certain aspects of aging.

For example, initial research funded by Life Extension showed that a combination of low-dose **resveratrol** plus **grape seed extract** induced many of the favorable gene expression changes observed in **calorie-restricted** animals.

We have since uncovered compelling evidence that certain compounds found in berries, such as **pterostilbene** and **fisetin**, also possess potent "longevity gene" activators that work in synergy with resveratrol. For example, **fisetin** (found in strawberries) has been shown to **stabilize** resveratrol in the body by shielding it from metabolic breakdown,¹⁻¹⁰ thus extending its beneficial effects.

High-Potency Resveratrol with Synergistic Activators

Life Extension members gain access to standardized **trans-resveratrol** combined with plant extracts that favorably influence longevity gene expression. Unlike many commercial formulas, Life Extension standardizes to **100% trans-resveratrol**, which researchers contend is the most active constituent. The most popular resveratrol supplement used today is:

Optimized Resveratrol with Synergistic Grape-Berry Actives

A bottle containing 60 vegetarian capsules of **Optimized Resveratrol with Synergistic Grape-Berry Actives** retails for \$46. If a member buys four bottles, the price is reduced to just **\$31** per bottle. The suggested dose of one capsule a day provides:

Trans-Resveratrol	250 mg
Grape-Berry Actives	85 mg
Quercetin	60 mg
Trans-Pterostilbene	0.5 mg
Fisetin	10 mg



Item #01430

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

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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.

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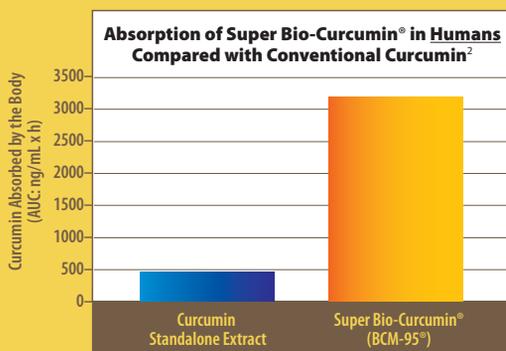


Chart 1. Super Bio-Curcumin® (BCM-95®) showed 6.9 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with conventional curcumin (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin absorbed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

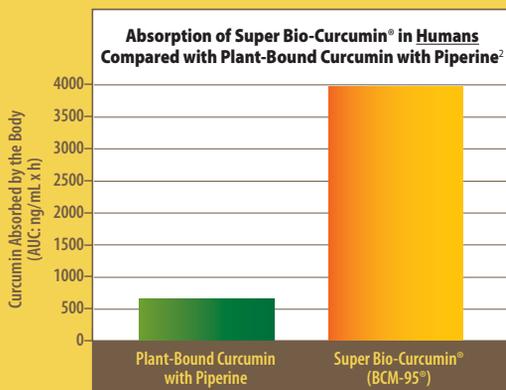


Chart 2. Super Bio-Curcumin® (BCM-95®) showed 6.3 times greater bioavailability (absorption and sustainability over 8 hours) in humans compared with plant-bound curcumin with piperine (as measured by the area under the curve [AUC] in a plot of blood levels against time, that is, the total amount of curcumin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

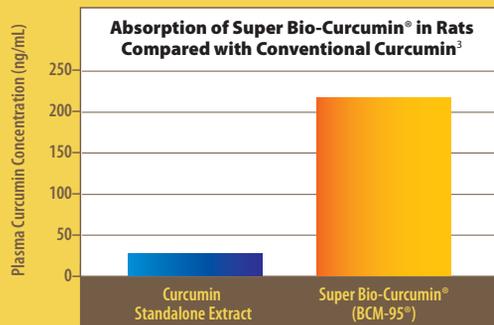


Chart 3. Bioavailability in rats fed with BCM-95® is 7.8 times higher than conventional curcumin.

On June 15, 2010, the **US Patent Office** awarded a patent on a curcumin compound that **absorbs up to seven times better** than conventional curcumin products.

This patented curcumin is what **Life Extension®** members have been getting in the **Super Bio-Curcumin®** product for last several years. Not only does this novel turmeric compound provide far **greater peak blood levels**, but the curcumin remains in the blood almost **twice as long** compared with conventional supplements.

Scientists continue to be impressed with the remarkable ability of curcumin and turmeric constituents to suppress inflammatory factors and promote healthy cell division. The problem was that conventional curcumin is poorly *absorbed* into the bloodstream.

As can be seen in the remarkable studies on the left, just **one 400 mg** capsule of the **patented** turmeric compound used in **Super Bio-Curcumin®** can provide curcumin blood levels equivalent to ingesting **2,500- 2,800 mg** of commercial curcumin.

What's more, the enhanced delivery complex contained in **Super Bio-Curcumin®** provides other beneficial turmeric compounds, thus making this the most cost-effective way to supplement with this critically important nutrient.

SUPER BIO-CURCUMIN® WITH BCM-95®



Item #00407

Life Extension members have had access to this superior and now patented BCM-95® curcumin compound for many years. 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.**

Bio-Curcumin® and **BCM-95®** are registered trademarks of Dolcas-Biotech, LLC.

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To order **Super Bio-Curcumin® with BCM-95®**, call 1-800-544-4440 or visit www.LifeExtension.com

Do Consumers Really Want Healthy Food?



BY WILLIAM FALOON



I don't know if you are as frustrated as I am, but I find it nearly impossible to buy healthy prepared food at grocery stores.

The front side of labels promotes many foods as being healthy, but a quick look at the ingredient panel reveals the opposite.

We know that eating certain vegetables is associated with reduced risks of some cancers. Commercial soups, however, contain virtually no cauliflower,¹ broccoli,²⁻⁶ asparagus,⁷ Brussels sprouts,⁸⁻¹⁰ or other vegetables that provide these benefits.

In fact, most vegetable soups are loaded with starches (potatoes, rice, or pasta) that spike blood sugar levels and contribute to many health problems. The glycemic index of *cruciferous* vegetables, on the other hand, is extremely low.¹¹

My aggravation with processed food companies motivated me to commission a chef to prepare soups that contain ingredients that protect against disease. The objective is to provide a broad-spectrum of cruciferous and other low-calorie vegetables with absolutely no starches, preservatives, or added sugars.

As you will read, we have developed two recipes that provide the healthy vegetables that nutrition experts recommend Americans consume more of.

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Not the First Time My Frustration Has Yielded Member Benefits

Back in the early 1990s, *Life Extension*® identified a host of **vascular disease** risk factors that could be measured in the blood.

The problem I and many members had was that doctors refused to prescribe blood tests to measure C-reactive protein, homocysteine, hormone levels, etc. Even when a doctor was willing to prescribe these blood tests, the cost of getting them done at commercial labs was outrageously high.

My reaction to this physician arrogance and laboratory inefficiency was to set up a **nation-wide blood testing network** in 1996 whereby our members could choose whatever blood tests they wanted, have their blood drawn at their convenience, and pay a very low price.

The motivation in setting up this blood testing network was not economic. I simply wanted members to be able to find out their disease risk markers so they could take corrective actions in time.

I cannot tell you how many people have thanked us for making blood testing so convenient and affordable... and saving their lives in the process!

The frustration I had in the 1990s over difficulties our members experienced in accessing life-saving blood tests is the same motivating factor behind the development of two new soups that contain only healthy ingredients.

Extra-virgin Olive Oil

The multiple benefits of the *monounsaturated* fats and other constituents of olive oil continue to be documented in published scientific studies.¹²⁻¹⁴



Findings reveal that consumption of **virgin olive oils** results in reductions in markers of atherosclerosis,¹⁵⁻²² cardiovascular diseases,²³⁻²⁷ osteoporosis,²⁸⁻³¹ chronic inflammation,³²⁻³⁶ senility,³⁷⁻⁴⁰ and certain cancers.⁴¹⁻⁴⁷

The favorable effects on human health from virgin olive oils are so persuasive that Life Extension® long ago added a *standardized olive fruit concentrate* to the popular **Super Omega-3** fish oil supplement. We reasoned that any member seeking the benefits of highly-concentrated **fish oil** would not want to miss out on the additive protective effects available from the **olive fruit**.

We start our recipe for the two vegetable soups with **extra-virgin olive oil** to provide both taste fullness and health benefits.

Cruciferous Vegetables

A huge volume of scientific data documents how *cruciferous vegetables* protect against a wide range of age-related diseases.⁴⁸⁻⁵⁹ Since the early 1980s, Life Extension has published the results from findings showing that those who eat cruciferous and certain other vegetables have low rates of common cancers.⁶⁰⁻⁷⁷

The problem is that most Americans don't consume broccoli, cauliflower, kale, Brussels sprouts, and cabbage on a regular basis to obtain these disease-preventing effects.

You would think that at least one commercial food company would recognize that when consumers are choosing a *vegetable* soup, they would want a variety that contains cruciferous vegetables with proven disease protective-effects.

On the contrary, profit-hungry processed food companies use the lowest-cost ingredients they can find. Since high-calorie potatoes, rice, pasta, and corn can be termed "vegetables," these are often the dominant ingredients in soups consumers are saddled with. Remember that corn is fed to cattle to fatten them up.

The two new soups you will learn about contain **cruciferous vegetables** such as **cauliflower**, **broccoli**, and **cabbage** along with other healthy plants and **extra-virgin olive oil**.

Healthy Non-cruciferous Vegetables

The plant kingdom provides aging humans with a wealth of nutrients that scientists have

identified as having potent disease-preventing properties.

The soups that our chef formulated contain **asparagus**,⁷⁸⁻⁸⁰ **peppers**,⁸¹⁻⁸⁵ **celery**,⁸⁶⁻⁹⁰ **carrots**,⁹¹⁻⁹³ **garlic**,⁹⁴⁻⁹⁹ **spinach**,¹⁰⁰⁻¹⁰³ **thyme**,¹⁰⁴⁻¹¹⁰ **parsley**,¹¹¹⁻¹¹³ **basil**,¹¹⁴⁻¹¹⁶ and **tomatoes**¹¹⁷⁻¹²² to provide the greatest variety of health-promoting plants in one satiating recipe.

Fighting Back Against Food Fraud

The “food fraud” perpetrated by processed food companies is unconscionable. They load supposedly healthy vegetable soups with rice, potatoes, pasta, and other high-glycemic ingredients.

As *Life Extension* members are aware, the American diet is already saturated with dangerous **sugars** that contribute to the growing epidemic of metabolic syndrome and type 2 diabetes.¹²³⁻¹²⁶ By intention-

ally spiking vegetable soups with cheap sugars and starchy ingredients, processed food companies reap enormous profits while consumers pay the price with a shortened life span. Is it any wonder why Americans are accumulating so many fat pounds?

A pouch of **Life Extension Vegetable Soups** provides more than **one-pound** of vegetables that will satiate most appetites—while delivering only **80 to 90 calories** per serving.

There are **3.5 servings** in each pouch, with each serving providing a **full serving** of **healthy vegetables**.

Life Extension’s Vegetable Soups can be used as a mini-meal by those seeking to reduce their calorie intake, or as a vegetable side dish to serve three or more people with a single pouch.

Compare the healthy calories in these soups to the garbage foods

you see endlessly advertised on TV. You’ll easily see how commercial food companies are robbing Americans of their health by promoting foods that create degenerative diseases rather than protecting against them.

Why We Don’t Use Cans

There is a growing concern that the lining of canned foods with **bisphenol-A or BPA** (found in **57%** of canned foods) represents a health risk.^{145,146} It has been shown to be an “endocrine (hormone) disruptor,” which raises concern about potential cancer risk.^{147,148}

The FDA says bisphenol-A is safe, but we have little confidence in a government agency that is so beholden to the financial interests of processed food companies.

We have therefore decided to package *Life Extension’s* new Vegetable Soups in an advanced BPA and phthalate-free polymer pouch to not only preserve the integrity of the cruciferous vegetables, but also protect our members against bisphenol-A exposure.

Do Consumers Really Want Healthy Food?

The title of this editorial is “*Do Consumers Really Want Healthy Food?*”

I ask this question because the price of **cruciferous vegetables** and **extra-virgin olive oil** is higher than **pasta, potatoes, rice, corn**, and the other cheap ingredients found in vegetable soups sold by processed food companies.

For the first production run of **Life Extension’s Vegetable Soups** (described fully at the end of this article), we need to charge a retail price of **\$11.95** per **two-pound** pouch. Members pay **\$8.96**



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for either of these Vegetable Soups. If six pouches are purchased of any assortment of these two soups, the member price drops to **\$8.44** per pouch.

Even at the discounted member prices, these vegetable soups are higher priced per pound than what is typically found in grocery stores. The question is: do consumers want to continue buying vegetable soups laden with sugar-starches and other mediocre ingredients?

I frankly don't know the answer. After all, for **\$5** nowadays, you can buy a big submarine sandwich and believe the advertising that eating one every day will enable you to lose weight and stay healthy.

As far as taste is concerned, I believe these soups are superior to anything on the market. But I am a poor judge of taste, as I have subconsciously trained myself to enjoy eating foods that are healthy.

I look forward to hearing feedback from members who try our new **Cruciferous Vegetable** and/or **Asian Cruciferous Vegetable** soups. If these are well received by the membership, we will expand into a broader line of health promoting foods... and lower the price in the process.

For longer life,



William Faloon

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What's Missing From Cooked Vegetables?

There is one important *caveat* that I have to tell you here. During the cooking process required to make any soup, some of the beneficial compounds contained in the vegetables are invariably lost.

Those concerned about certain cancers often rely on supplements that contain *standardized potencies* of nutrients found in healthy vegetables such as **indole-3-carbinol**,¹²⁷⁻¹³⁰ **diindolymethane**,¹³¹⁻¹³⁵ **sulforaphane**,¹³⁶⁻¹⁴⁰ and **apigenin**.¹⁴¹⁻¹⁴⁴

Even when including cooked vegetables in your diet, it is still important to obtain *standardized potencies* of cruciferous and other vegetable extracts from your supplements and/or carefully steamed vegetables.





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The Most Advanced

CoQ10 Technology

Life Extension® was the first to introduce **coenzyme Q10** to the United States way back in **1983**. Since then, we have consistently introduced more **potent** and better **absorbable** forms of this critical nutrient.

Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ contains an organic compound called **PrimaVie® shilajit** that research shows **doubles** levels of **CoQ10** in the **mitochondria**.¹

Shilajit has been shown to help restore and sustain **cellular energy**. The latest studies reveal that when **shilajit** is **combined** with **CoQ10**, **cellular energy** gains substantially increase.

In a breakthrough preliminary study, the combination of CoQ10 and **shilajit** produced a **56%** increase in cellular energy production in the **brain—40% better** than CoQ10 alone. In **muscle** there was a **144%** increase, or **27% better** than CoQ10 alone.²

Researchers have found that **shilajit** works to boost **CoQ10's** beneficial effects by:

1. Stabilizing CoQ10 in its superior **ubiquinol** form, thereby *prolonging* its action at the cellular level.^{3,4}
2. Facilitating more efficient *delivery* of CoQ10 into the **mitochondria**, resulting in greater cellular energy output.⁵⁻⁹

Scientific analysis shows that **shilajit** itself is rich in **essential** compounds that promote mitochondrial metabolism. Part of **shilajit's** beneficial effects derives from its ability to help the mitochondria convert **fats** and **sugars** into adenosine triphosphate, or **ATP**—the body's main source of energy.⁵⁻⁹

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

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}



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**

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 #01425

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



Item #01431

References:

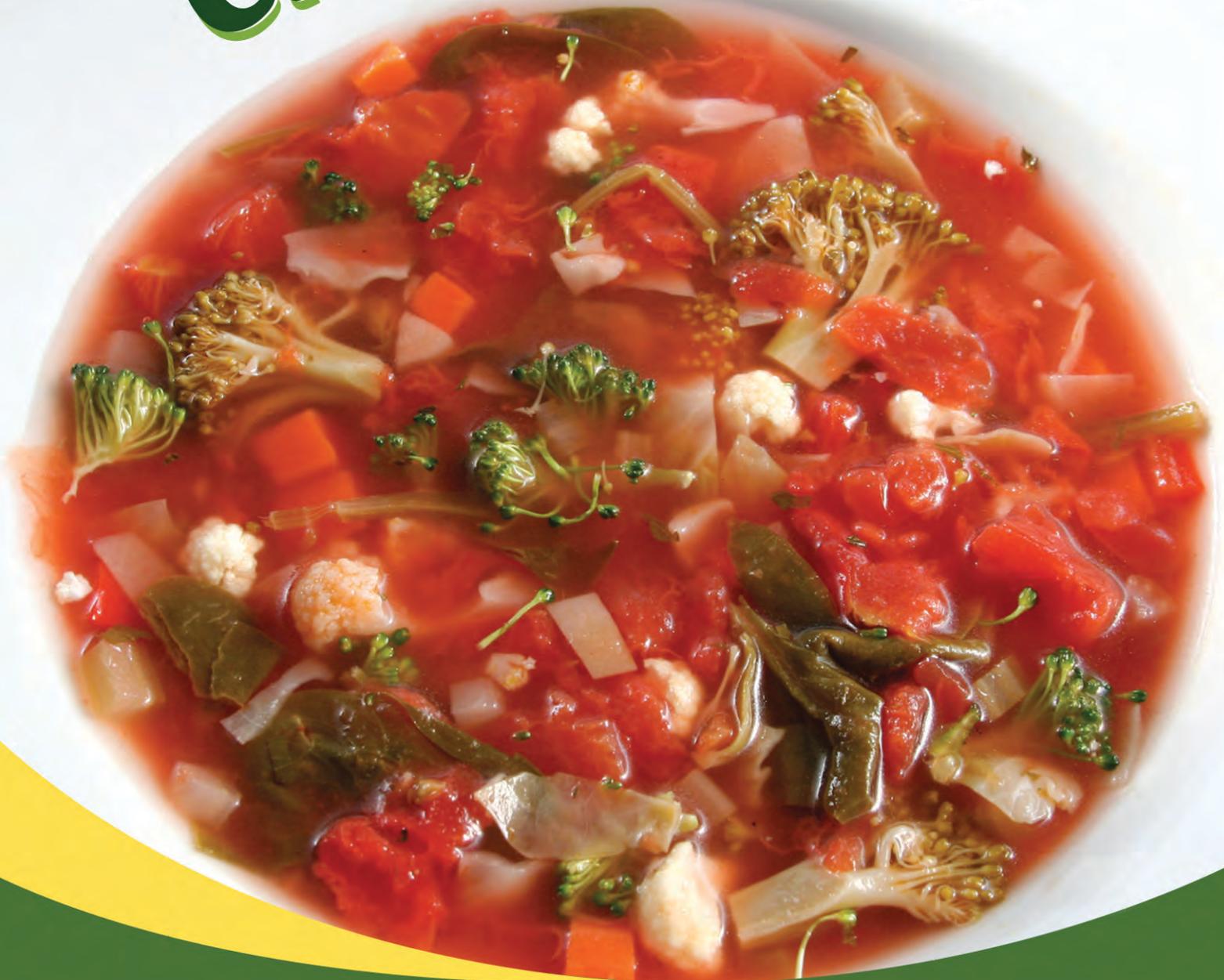
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These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

The World's Healthiest Vegetables
Only Healthy Ingredients • No Starches or Harmful Fats

Vegetable Soup
Cruciferous



Processed food companies sell vegetable soups so cheaply because they load them with *high-glycemic* carbohydrates (rice, potatoes, pasta) that cost virtually nothing. They then add inexpensive ingredients like corn, sugar, and sometimes omega-6 fats (like cottonseed oil). So for less than \$2, you get a relatively high-carb-calorie soup that provides virtually no health benefits.

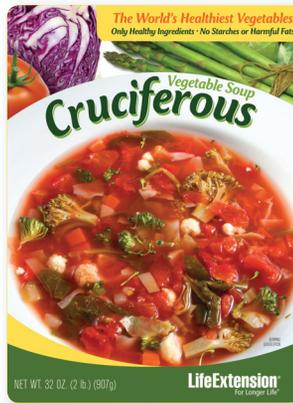
Life Extension® has formulated two vegetable soups that contain only healthy ingredients, including loads of **cruciferous vegetables** (cauliflower, broccoli, cabbage, etc.), **extra-virgin olive oil**, and a host of other beneficial **plant foods**.

Each serving of **Cruciferous Vegetable** and **Asian Cruciferous Vegetable** soup contains only **80 to 90 calories** of the best-documented foods to maintain your precious health. You can consume the entire contents as a healthy lunch or dinner, or use a smaller portion of the soup as part of a meal for you (or several people).

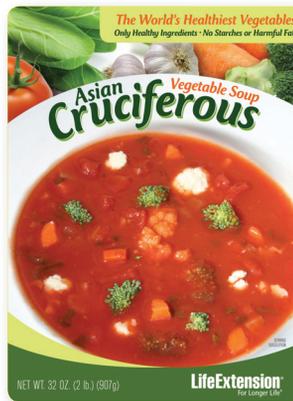
Each **80-90 calorie** serving of these new soups provides a **full serving** of the world's healthiest vegetables. The entire pouch supplies about **3.5 servings** of these vegetables—with none of the cheap starch fillers found in commercial soups.

The retail price of either the **Cruciferous Vegetable** or **Asian Cruciferous Vegetable** soups is \$11.95. Member price is **\$8.96**. If a **Life Extension®** member purchases any assortment of six pouches, the price is reduced to **\$8.44** per pouch.

To order your fresh supply of Life Extension's new Cruciferous Vegetable or the Asian Cruciferous Vegetable soups, call 1-800-544-4440 or visit www.lef.org/soup



Item #01089



Item #01090

Souper tasty. Souper Satisfying.

You know you don't eat enough veggies. So **Life Extension®** cooked up a convenient, tasty way to spoon-feed you these souper foods.

These soups provide unique garden-fresh ingredients, such as cruciferous vegetables, tomatoes, carrots, and other beneficial plant foods plus heart-healthy extra virgin olive oil.

You can consume the entire contents as a lunch or dinner, or use a smaller portion as a starter. The convenient resealable package will help keep your soup fresh and fresh tasting, and without the BPA found in many canned soups.

Each of these soups provides:

A full serving of vegetables per serving (or about 3.5 servings of healthy vegetables per pouch)

Less than 100 calories per serving

No added starches, preservatives, or sugars!

Excellent source of cruciferous vegetables

Low total fat per serving

No saturated fat or cholesterol

0g trans fat



While many factors affect heart disease, diets low in saturated fat and cholesterol may reduce the risk of this disease.

Cruciferous Vegetable Soup

Nutrition Facts

Serving Size 1 cup (245g)
Servings Per Container about 3.5

Amount Per Serving	
Calories 90	Calories from Fat 30
% Daily Value *	
Total Fat	3g 5%
Saturated Fat	0g 0%
Trans Fat	0g
Cholesterol	0mg 0%
Sodium	190mg 8%
Total Carbohydrate	12g 4%
Dietary Fiber	2g 8%
Sugars	8g
Protein	3g

Vitamin A 80% • Vitamin C 80%
Calcium 6% • Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Saturated Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
Fat 9 • Carbohydrates 4 • Protein 4

Ingredients: Diced Tomatoes in Juice (tomatoes, tomato juice, citric acid, calcium chloride), Water, Tomato Paste, Carrots, Celery, Cauliflower, Green Cabbage, Red Cabbage, Broccoli, Spinach, Brussels Sprouts, Chicken Broth, Asparagus, Extra Virgin Olive Oil, Red Bell Pepper, Garlic, Parsley, Thyme, Basil, Bay Leaf, Black Pepper.

01089A Rev.10/10

Asian Cruciferous Vegetable Soup

Nutrition Facts

Serving Size 1 cup (245g)
Servings Per Container about 3.5

Amount Per Serving	
Calories 80	Calories from Fat 20
% Daily Value *	
Total Fat	2g 3%
Saturated Fat	0g 0%
Trans Fat	0g
Cholesterol	0mg 0%
Sodium	210mg 9%
Total Carbohydrate	12g 4%
Dietary Fiber	2g 8%
Sugars	8g
Protein	3g

Vitamin A 60% • Vitamin C 80%
Calcium 4% • Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Saturated Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
Fat 9 • Carbohydrates 4 • Protein 4

Ingredients: Diced Tomatoes in Juice (tomatoes, tomato juice, citric acid, calcium chloride), Water, Tomato Paste, Bok Choy, Broccoli, Red Cabbage, Cauliflower, Carrots, Onion, Red Bell Pepper, Green Onion, Chicken Broth, Extra Virgin Olive Oil, Cilantro, Garlic, Pepper Sauce (aged red peppers, distilled vinegar, salt), Ginger, Black Pepper.

01090A Rev.10/10

Processed food companies sell vegetable soups so cheaply because they load them with *high-glycemic* carbohydrates (rice, potatoes, pasta) that cost virtually nothing. They then add inexpensive ingredients like corn, sugar, and sometimes omega-6 fats (like cottonseed oil). So for less than \$2, you get a relatively high-carb-calorie soup that provides virtually no health benefits.

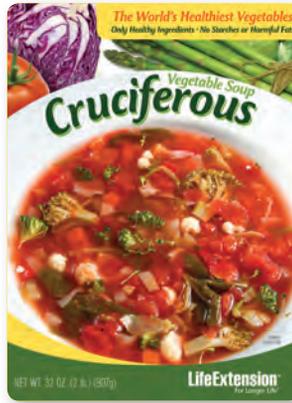
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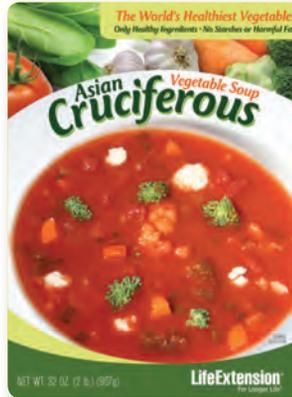
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Item #01089



Item #01090

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Less than 100 calories per serving

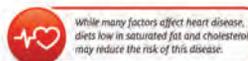
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0g trans fat



Cruciferous Vegetable Soup

Nutrition Facts

Serving Size 1 cup (245g)
Servings Per Container about 3.5

Amount Per Serving		% Daily Value *	
Calories	90	Calories from Fat 30	
Total Fat	3g		5%
Saturated Fat	0g		0%
Trans Fat	0g		
Cholesterol	0mg		0%
Sodium	190mg		8%
Total Carbohydrate	12g		4%
Dietary Fiber	2g		8%
Sugars	8g		
Protein	3g		

Vitamin A 80% • Vitamin C 80%
Calcium 6% • Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Saturated Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
Fat 9 • Carbohydrates 4 • Protein 4

Ingredients: Diced Tomatoes in Juice (tomatoes, tomato juice, citric acid, calcium chloride), Water, Tomato Paste, Carrots, Celery, Cauliflower, Green Cabbage, Red Cabbage, Broccoli, Spinach, Brussels Sprouts, Chicken Broth, Asparagus, Extra Virgin Olive Oil, Red Bell Pepper, Garlic, Parsley, Thyme, Basil, Bay Leaf, Black Pepper.

01089A Rev. 10/10

Asian Cruciferous Vegetable Soup

Nutrition Facts

Serving Size 1 cup (245g)
Servings Per Container about 3.5

Amount Per Serving		% Daily Value *	
Calories	80	Calories from Fat 20	
Total Fat	2g		3%
Saturated Fat	0g		0%
Trans Fat	0g		
Cholesterol	0mg		0%
Sodium	210mg		9%
Total Carbohydrate	12g		4%
Dietary Fiber	2g		8%
Sugars	8g		
Protein	3g		

Vitamin A 60% • Vitamin C 80%
Calcium 4% • Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Saturated Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
Fat 9 • Carbohydrates 4 • Protein 4

Ingredients: Diced Tomatoes in Juice (tomatoes, tomato juice, citric acid, calcium chloride), Water, Tomato Paste, Bok Choy, Broccoli, Red Cabbage, Cauliflower, Carrots, Onion, Red Bell Pepper, Green Onion, Chicken Broth, Extra Virgin Olive Oil, Cilantro, Garlic, Pepper Sauce (aged red peppers, distilled vinegar, salt), Ginger, Black Pepper.

01090A Rev. 10/10

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. Men with prostate issues may suffer *urinary or sexual problems*, in addition to *inflammation* and *discomfort*. Choosing to support a healthy prostate through supplementation is one of the smartest choices an aging man can make.

Ultra Natural Prostate Formula combines ten 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 control inflammatory actions in the prostate. **Lycopene** is a carotenoid that has been added to the formula to help maintain healthy DNA gene function in prostate cells.

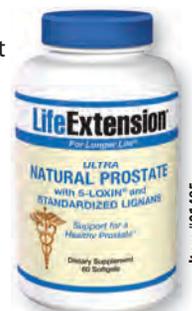
In order to boost its anti-estrogen capabilities, **Ultra Natural Prostate Formula** incorporates **HRMLignan™**, a nutrient derived from Norway spruce and flax seeds, and **nettle root extract**.

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

Contains soybeans.



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

USPlus® Saw Palmetto (CO ₂ DeepExtract™)	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% beta-sitosterol)	678 mg
HRMLignan™ Proprietary blend of Norway Spruce and ActiFlax™ Flax Lignan extracts	20.15 mg
Boron	3 mg

5-LOXIN® is a registered trademark of P.L. Thomas & Co., Inc. U.S. patents pending. ActiFlax™ is a trademark of Pharma Science Nutrients, Inc., all rights reserved. HRMLignan™ is a trademark used under sublicense from Linnea S.A. USPlus® and DeepExtract™ are trademarks of Valensa International and are used under license. US Patents 6,319,524 & 6,669,968. Not available for export.

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

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.



IN THE NEWS

Berries May Activate “Housekeeping” Mechanism in Brain

A recent presentation at the 240th National Meeting of the American Chemical Society (ACS) brought to light studies that highlight berries’ ability to switch on a natural “housekeeper” mechanism in the brain.*

Shibu Poulouse, PhD, who is with the US Department of Agriculture-Agricultural Research Service (USDA-ARS) Human Nutrition Research Center on Aging in Boston, gave the presentation, stating that this new research was built on previous studies that suggested that a factor in aging is a constant decline in the body’s ability to protect itself against inflammation and oxidative damage.

“The good news is that natural compounds called polyphenolics found in fruits, vegetables, and nuts have an antioxidant and anti-inflammatory effect that may protect against age-associated decline,” Poulouse said.

One of the experiments proving berries’ effectiveness involved using cultures of mouse brain cells. Poulouse and other researchers found that extracts of berries inhibited the action of a protein that shuts down the autophagy process.

“Our research suggests that the polyphenolics in berries have a rescuing effect. They seem to restore the normal housekeeping function. These findings are the first to show these effects of berries,” Poulouse said.

—Jon Finkel

* Presented at the 240th National Meeting of the American Chemical Society.

Higher Selenium Levels Associated with Reduced Bladder Cancer Risk

The results of a meta-analysis reported in *Cancer Epidemiology, Biomarkers & Prevention*, conclude that the mineral selenium may have a protective effect against bladder cancer, one of the most common types of cancer worldwide.*

Núria Malats, MD, PhD of the Spanish National Cancer Research Center and colleagues analyzed data from 7 epidemiologic studies that reported the association between bladder cancer incidence and selenium levels measured in blood, serum, nails, hair, or saliva. The researchers found a 39% lower risk of bladder cancer in those with high versus low selenium levels. The protective effect extended mainly to women, who are at lower risk of developing the disease than men.

“Although our results suggest a beneficial effect of high selenium intake for bladder cancer risk, more studies are needed to confirm these findings before an enforcement of high selenium intake is recommended,” Dr. Malats stated.

Editor’s note: In an accompanying editorial, Elizabeth A. Platz, ScD, MPH concurred that “These findings provide a valuable lead for what to do next to understand if there is a role for selenium supplementation in bladder cancer prevention.”

—D. Dye

* *Cancer Epidemiol Biomark Prev.* 2010 Sep.



Resveratrol Improves Endothelial Function in Overweight Men and Women

An article published recently in the journal *Nutrition, Metabolism & Cardiovascular Disease* revealed the results of a clinical trial of overweight and obese individuals which found a benefit for resveratrol in improving flow-mediated dilatation (FMD), a biomarker of endothelial function and cardiovascular health.*

For their research, 19 overweight or obese men and postmenopausal women with borderline hypertension were given 30, 90, or 270 milligrams resveratrol or a placebo over 4 weekly intervals, and plasma resveratrol and flow-mediated dilatation of the brachial artery were measured one hour later.

Plasma resveratrol increased with dosage, corresponding to improvements in flow-mediated dilatation compared to placebo.

“The present study is the first to demonstrate that synthetic trans-resveratrol can improve FMD acutely and in a dose-related manner in at-risk population groups,” the authors announce.

“However, even the lowest resveratrol dose (30 mg) used in this study cannot be obtained from normal dietary habits.”

Editor's note: While it is true that a normal diet does not provide this level of resveratrol, over the counter resveratrol supplements make it easy to obtain the dosages administered in the study.

—D. Dye

* *Nutr Metab Cardiovasc Dis.* 2010 Jul 29.

Sleep Loss Causes Dieters to Lose Muscle Instead of Fat

A recent article in the peer-reviewed journal *Annals of Internal Medicine* reports on a study by researchers from the University of Chicago evaluating the effect adequate sleep has on managing body weight.*

The researchers studied 10 overweight males and females in a sleep research center over two separate two-week periods. During each two-week period the participants followed the same low calorie diet, but they had different sleep schedules each session. During the first two-week period, the participants slept 8.5 hours per night, while during the second session, they slept just 5.5 hours each night.

The researchers discovered that while on 8.5 hours sleep each night, over 50% of the participants' weight loss consisted of fat, while on 5.5 hours of sleep each night, only around 25% of the participants weight loss consisted of fat. In short, participants lost 55% less fat than when they were sleeping 8.5 hours.

—Jon Finkel

* *Ann Intern Med.* 2010 Oct 5;153(7):435-41.

Higher Serum Selenium Levels Linked with Lower Prostate Cancer Risk

An article published online in the journal *Cancer Epidemiology, Biomarkers & Prevention* reports an association between higher levels of the mineral selenium and a reduced risk of prostate cancer.*

European researchers age-matched 248 men diagnosed with prostate cancer with 492 control subjects who did not have the disease. Serum samples obtained upon enrollment were analyzed for selenium, selenoprotein P concentrations, and activity of glutathione peroxidase.

A reduction in prostate cancer risk was found in association with higher serum levels of selenium. When participants were divided into four groups according to selenium status, those whose selenium was in the third highest group had a 39% lower risk of prostate cancer than those whose selenium levels were lowest. This reduction in risk lessened among those whose selenium levels were in the top quarter. Serum glutathione peroxidase levels exhibited a similar protective pattern.

Editor's note: The finding contradicts the conclusion of other research which failed to determine a protective benefit for selenium against the disease.

—D. Dye

* *Cancer Epidemiol Biomark Prev.* 2010 Sep 17.





Mechanism Found for Omega-3 Fatty Acids in Lowering Inflammation

An article published in *Cell* reports the discovery of a mechanism used by omega-3 fatty acids in reducing insulin resistance and chronic inflammation.*

Recent research revealed that members of a family of signaling molecules known as G protein-coupled receptors respond to free fatty acids. Using cell cultures, Jerrold Olefsky, MD and colleagues found that exposure to omega-3 fatty acids activates one of these receptors. The receptor, known as GPR120, is located on macrophages in fat cells, and, when activated, prevents the macrophages from causing inflammation.

The researchers compared the effects of diets supplemented with the omega-3 fatty acids EPA and DHA in mice bred to lack the GPR120 receptor and normal mice. Prior to receiving EPA and DHA, both groups of animals received high fat diets to induce insulin resistance. While the normal mice experienced enhanced insulin sensitivity and reduced inflammation after omega-3 supplementation, mice lacking the receptor failed to benefit.

Editor's note: Dr. Olefsky noted that their work "suggests a possible way to treating the serious problems of inflammation in obesity and in conditions like diabetes, cancer, and cardiovascular disease through simple dietary supplementation."

—D. Dye

* *Cell*. 2010 Sep 3;142(5):687-98.

Vitamin B6 Supplementation Lowers Inflammation in Rheumatoid Arthritis Patients

The *European Journal of Clinical Nutrition* reported a trial conducted by researchers in Taiwan which found an anti-inflammatory benefit for vitamin B6 supplementation in rheumatoid arthritis patients.*

Dr. Y-C Huang of Chung Shan Medical University in Taichung and colleagues randomized 35 adults with rheumatoid arthritis to receive 5 milligrams per day folic acid or 5 milligrams folic acid plus 100 milligrams vitamin B6 for 12 weeks. Blood samples obtained from the subjects at the beginning and end of the study were analyzed for plasma pyridoxal 5'-phosphate (the active form of vitamin B6), serum folate, and factors involved in inflammation, including C-reactive protein, erythrocyte sedimentation rate, interleukin-6 and tumor necrosis factor-alpha (TNF- α).

At the end of the twelve weeks, interleukin-6 and TNF- α were decreased among those who received supplemental vitamin B6. Higher plasma interleukin-6 levels were related to reduced levels of plasma pyridoxal 5'-phosphate.

Editor's note: The authors write that their results "provide valuable reference data for clinical practice with regard to the potential beneficial use of vitamin B6 to suppress inflammatory response in rheumatoid arthritis patients."

—D. Dye

* *Eur J Clin Nutr*. 2010 Sep;64(9):1007-13.

B Vitamin Supplements Slow Brain Atrophy in Cognitively Impaired Patients

The results of a trial reported in the journal *PLoS ONE* revealed that men and women with mild cognitive impairment who were supplemented with vitamin B6, vitamin B12 and folic acid experienced a reduction in the rate of brain atrophy compared with those who received a placebo.*

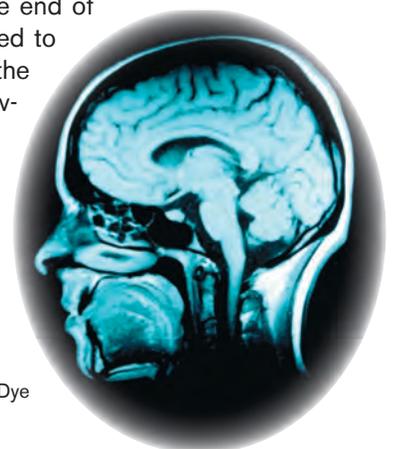
Researchers at the University of Oxford randomized 168 subjects to receive 20 mg of vitamin B6, 500 mcg of vitamin B12, and 800 mcg of folic acid per day for 24 months.

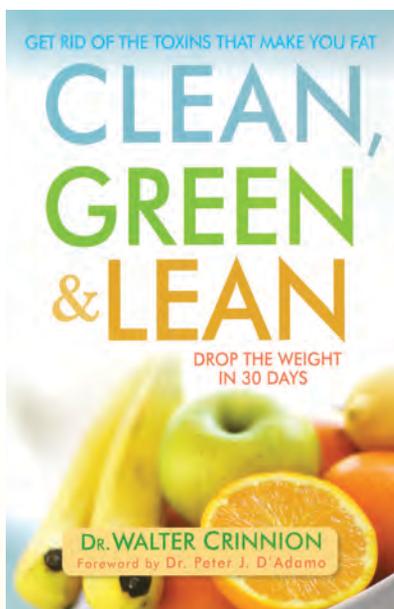
The age-adjusted rate of brain atrophy per year was 29.6% less and homocysteine levels were 31.7% lower by the end of the trial in the active treatment group compared to the placebo group. Among those who received the vitamins and whose baseline homocysteine levels were among the top 25%, a 53% reduction in the rate of atrophy occurred compared to the placebo group.

Editor's note: The authors remark that while elevated homocysteine could be a direct cause of the brain atrophy observed in the study, it may alternately be the result of reduced levels of folate, vitamin B6, and vitamin B12, with increased homocysteine only serving as a marker of these insufficiencies.

—D. Dye

* *PLoS One*. 2010 Sep 8;5(9):e12244.





CLEAN, GREEN & LEAN

Drop the Weight in 30 Days

By Dr. Walter Crinnion

When choosing to save the planet or save your life, most people would choose the latter. However, the book *Clean, Green & Lean* (Wiley, 2010) by Dr. Walter Crinnion, offers you a way to do both. Crinnion is one of America's foremost authorities on environmental medicine and the director of the Environmental Medicine Center of Excellence at the Southwest College of Naturopathic Medicine in Arizona. In his words, the strategy for this book is a simple one: "Stop new toxins from coming into the body and get accumulated toxins out of the body."

He lays out a plan throughout the book to accomplish these goals in four simple ways:

1. Clean up your diet.
2. Clean up your home environment.
3. Use toxin-fighting supplements.
4. Improve elimination.

With these four steps elaborated throughout the pages of *Clean, Green & Lean*, readers will be treated to broad brush concepts like avoiding reactive foods like wheat, sugar, and dairy, which commonly cause problems, to more specific strategies to avoid chemicals, like which plastic wrap is the safest to cover your food with (it's a trick question—the best option is to never use them, but if you have to, use wax paper).

The book is divided into three parts, beginning with "Part One: Understanding and Overcoming

Toxins." This part is dedicated to teaching you how to reduce your toxic burden, and it goes into depth to explain what is called the "toxin-fat" connection. Readers may find this section disturbing when they learn how easily things like increased exposure to pesticides can lead to poisoning, weight gain, and increased risk of heart disease, liver disease, and cancer.

Part Two of the book explains the Clean, Green diet, what you need to get rid of to follow it, and which supplements are most effective in combating disease and cleansing your body. Headlining the list of Crinnion's toxin-fighting nutrients are supplements that most *Life Extension Magazine*® readers are familiar with: vitamin B1, vitamin B2, vitamin B6, magnesium, alpha-lipoic acid, N-acetyl cysteine, and selenium.

In order to help readers capitalize on the information distributed in the first two-thirds of the book, Part Three lays out a blueprint for readers to follow to live a *Clean, Green & Lean* life. This includes a four-week plan to follow, as well as healthy recipes and a meal-by-meal fourteen-day menu plan.

Clean, Green & Lean is an eye-opening read that lifts the veil on the toxins that surround us every day. After completing this book, your perspective on everyday objects, from microwave-safe bowls, to cologne, will no doubt be changed...but so will your life, for the better.

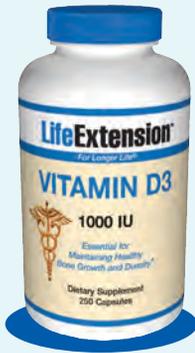
Which VITAMIN D is Right for You?



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.



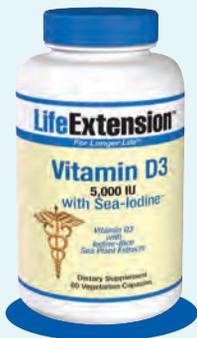
Vitamin D3 1,000 IU 250 capsules

Retail: \$12.50

Four-bottle Member Price: **\$8.44**

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.



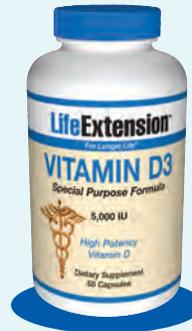
Vitamin D3 5,000 IU with Sea-Iodine* 60 vegetarian capsules

Retail: \$14

Four-bottle Member Price: **\$9.38**

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.

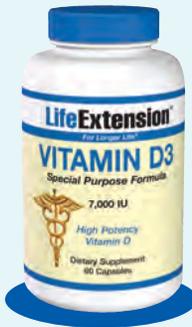


Vitamin D3 5,000 IU 60 capsules

Retail: \$11

Four-bottle Member Price: **\$7.43**

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**

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**

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.

Without proper hydration, the skin's natural barrier won't function correctly. This leads to the typical tell-tale signs of aging: fine lines, sagging, and a dry "papery" look. While many try to combat this damaging dehydrating effect of aging by drinking plenty of water, an ideal way to maintain fluid balance of skin is through the use of a topical spray.

Hydrating Anti-Oxidant Face Mist is a skin-saving weapon to help rejuvenate damaged facial skin. It contains **Aqualance™**, a powerful new skin moisturizing agent that effectively counterbalances the drying effect of trans-epidermal water loss and helps maintain optimal water content in the cell, leaving skin softer, smoother, and brighter.

Aqualance™ works by harnessing the power of an osmotic module composed of **homarine**, a metabolite found in certain marine mollusks and **erythritol**, a natural sugar alcohol. The combination of these two ingredients helps ensure prime water balance in skin cells, and progressively rehydrates the different layers of skin.

In addition to **Aqualance™**, the new **Hydrating Anti-Oxidant Face Mist** provides **vitamins A and D** to restore skin's natural radiance, the minerals **zinc** and **potassium** for healthy cells, and a special **concentrated tea blend** for an anti-oxidant boost, making this mist uniquely nutrient-rich. **Hyaluronic acid** is also included in the mist to restore healthy texture, color, and moisture to aging skin.

*Enjoy the Moisturizing
Power of Aqualance™...
Plus other Topical
Anti-Aging Nutrients*

As a **Life Extension®** member, you don't have to pay department store prices for novel skin care products. The retail price for a 4 oz bottle of **Cosmesis Hydrating Anti-Oxidant Face Mist** is \$39.95. If a member buys two bottles, the cost is only **\$28.50** each.



Item #80138

**To order Cosmesis Hydrating
Anti-Oxidant Face Mist, call 1-800-544-4440
or visit www.LifeExtension.com**

Aqualance™ is a trademark of Sederma SAS.

New Mist Moisturizes, Revives, and Replenishes Aging Skin!

A line of skin care products developed by
renowned dermatologist Gary Goldfaden, MD



COSMESIS
SKIN CARE

Developed Exclusively for Life Extension™

MEGA SILYMARIN

with Isosilybin B



Triple Standardized Milk Thistle Extract

Milk thistle extract has long been valued for its role in ensuring healthy liver function, and it is also a powerful antioxidant.^{1*}

Milk thistle extract consists of silibinin and other similar compounds. Until recently, scientists focused their research on **silibinin**, as it was the most abundant and biologically active ingredient found in milk thistle extract.

Highly advanced extraction technology has now enabled scientists to isolate silymarin constituents and to test their efficacy against various cell lines. Among the compounds tested, a silymarin constituent called **isosilybin B** proved to be the most efficient in maintaining healthy cell division.^{2*}

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

Milk Thistle Extract (*Silybum marianum*) (seed)
[standardized to 80% Silymarin by UV (720 mg),
30% Silibinin by HPLC (270 mg), and
4.5% Isosilybin B complex by HPLC (40.5 mg)]

900 mg



Item #00702

To order Mega Silymarin
with Isosilybin B,
call 1-800-544-4440
or visit
www.LifeExtension.com

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

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

Reference

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

Contains rice.

*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.



New Human Study Confirms Potent Antidepressant Effects of **SAMe**

Life Extension® introduced **SAMe** (S-adenosylmethinone) in 1997. Back then it was enormously popular in **Europe**, but unknown in the United States.

The **National Institute of Mental Health** decided to fund a double-blind, placebo-controlled trial that would evaluate **SAMe** as an additive therapy in those suffering **major depression** who were resistant to FDA-approved **drugs**.

Researchers at Harvard Medical School and Massachusetts General Hospital gave patients **800 mg** of **SAMe** twice daily along with a selective serotonin reuptake inhibiting drug (SSRI).

Relative to placebo, patients who received the **SAMe** showed a **105% higher** response rate and a **121% higher** remission rate.¹ Said differently, add-on therapy with **SAMe** in patients with drug-resistant depression produced **double** the response rate AND remission rate compared with placebo within a 6-week period.

This study was published in the **August 2010** issue of the *American Journal of Psychiatry*.¹ It was a follow-up to a **2004** pilot study that showed greater benefits when antidepressant drugs were combined with **SAMe** than when the same drugs were taken alone.²

For the past 13 years, **SAMe** has been on Life Extension's **TOP TEN** list of the most important steps to take to ensure optimal longevity. **SAMe** has been recommended to aging individuals not to just **feel better**, but also to protect the **brain, liver, joints**, and other tissues of the body like no other substance.

This article reviews and updates the many studies documenting the **anti-aging** properties of **SAMe**. > >



A listing of all the drugs the FDA has approved to treat depression would fill several pages of this magazine. A major problem with these antidepressant drugs is that they *fail* a significant number of patients—up to 30%, by some accounts.³ In many cases, the drugs make depressed individuals feel worse, and FDA-mandated labeling now requires a warning that use of some antidepressants increases suicide risk—which is an incredible contradiction considering that suicide is a leading cause of death amongst depressives.

An equally disconcerting issue is the many side effects associated with antidepressant medications such as weight gain, constipation, dry mouth, and other symptoms that cause many depressives to stop using them.

There is thus an urgent need for a new approach to treating those who fail to respond to currently available antidepressant medications. Encouraging news from a recent study shows that the addition of *S-adenosylmethionine* (SAME) to a serotonin reuptake inhibitor drug markedly improves the percentage of severe depressives who are relieved of their disorder.

Unlike synthetic prescription drugs that induce unintended side effects, SAME is a naturally-occurring agent in the body that performs a multitude of beneficial functions, such as boosting glutathione levels in the brain and liver. The anti-aging properties of SAME are so profound that non-depressives take it each day (in lower doses) just like they do their other dietary supplements.^{4,5}

Antidepressants Don't Work

As a team of Harvard researchers noted in a remarkable 2010 study published in the *Journal of Clinical Psychiatry*,⁶ ***"The majority of depressed patients will not experience remission when treated with a first-line antidepressant."***

In other words, antidepressants don't really work for most patients. More is needed to help depression's victims.

This is where SAME comes in.

In modern high-tech imaging studies of healthy human brains, SAME produces effects typical of several classes of antidepressant drugs⁷—but unlike those drugs, SAME has remarkably few side effects and is well-tolerated even in elderly subjects.⁸

People with depression may exhibit a variety of biochemical imbalances, but the most common and best-known has to do with neurotransmitters like ***serotonin*** (involved in mood, sleep, appetite, and learning) and ***norepinephrine*** (involved in heart rate, blood pressure, and the fight-or-flight response). These chemical messengers belong to a class of molecules known as ***monoamines***, and their synthesis in brain cells is largely controlled by the presence of folic acid, vitamin B12—and SAME.⁹⁻¹² When released into the space between brain cells (the synapse), monoamines exert stimulating or inhibiting effects on postsynaptic neurons.

With too little serotonin or norepinephrine available, the brain cannot sustain a positive mood—and depression results. Virtually all antidepressant drugs work to boost levels of these neurotransmitters within the synapse. And therein lie many of their limitations—and the causes of many of their side effects.¹³

SAMe operates through a completely different mechanism than these drugs. A molecule derived from the sulfur-containing amino acid *methionine*, SAMe is found in every living cell and plays a central role in cellular function.^{14,15} In addition to being required for monoamine synthesis, it also affects cell membrane fluidity, which may in turn influence how well a neuron transmits an electrical signal.¹⁶ Recent studies have shown that SAMe is also involved in the so-called “epigenetic” control of cellular function—the ability of cells to activate or suppress specific genes based on environmental influences—by its effects on proteins associated with chromosomes.¹⁷

These multi-targeted effects, coupled with an extraordinary safety profile, make SAMe a compelling treatment for a wide variety of brain disorders, from depression and cognitive decline to congenital metabolic dysfunction.^{18,19} SAMe crosses the blood-brain barrier, making it readily available to the brain and nervous system.¹⁰ This is vital: SAMe levels in the **spinal fluid** of depressed individuals have been shown to be significantly lower than those of healthy people.¹¹

Animal models of depression shed additional light on how SAMe works in the brain. More than two decades ago Japanese scientists demonstrated a reduction in aggression in rats treated with SAMe as a result of its action in the central nervous system.²⁰ By the turn of this century, researchers in Italy and Spain showed that SAMe reverses experimentally-induced depression in rats, at a rate faster than that of the prescription antidepressant *imipramine*, the first tricyclic antidepressant developed, and without apparent side effects.^{21,22} And in a remarkably detailed study, the Italian group showed that SAMe restored diminished brain levels of “polyamines,” essential brain molecules that are reduced in depressed patients.²³

In 2007 a team of scientists at the University of Massachusetts launched a study using a combination of SAMe with N-acetyl cysteine (NAC) and acetyl-L-carnitine.²⁴ Their subjects were aging mice with neurodegeneration similar to Alzheimer’s disease, in which depression is often a major manifestation. The combination rapidly enhanced cognitive function and prevented or reduced aggression in the animals, an effect that was rapidly reversed when the combination was withdrawn. The combination also prevented a decline in levels of the neurotransmitter *acetylcholine*, while contributing important antioxidant effects as well.

SAMe

- A landmark study funded by the National Institute of Mental Health revealed that the addition of S-adenosylmethionine or **SAMe** produces compelling results in people taking SSRIs, the majority of whom do not experience relief when taking the drug alone.
- SAMe is a naturally occurring molecule found in all living cells; it supports a host of chemical functions necessary for normal brain activity.
- SAMe acts by several distinct and independent mechanisms to target multiple sites of action in brain cells that are involved in producing depression.
- In clinical trials, SAMe has been shown to be at least as effective as prescription antidepressants, but with far fewer side effects.
- Because of its strong safety record, SAMe should be part of any regimen for brain health, particularly when depressive symptoms are present—and when prescription drugs alone don’t work.
- SAMe has also been shown to confer enormous benefits to the brain, liver, and joints, halting and even *reversing* various degenerative conditions, from **osteoarthritis** and **neurodegeneration** to **nonalcoholic fatty liver disease**.



Let's turn now to the clinical realm and examine how well SAME actually functions in *humans* suffering from depression.

SAMe Dramatically Improves Therapeutic Outcomes

Clinical trials have repeatedly demonstrated the benefits of SAME in patients with major depression in a variety of populations: doses of **400-1,600 mg** daily consistently resulted in rapid improvement in depressive symptoms and side effects that were mild and transient.²⁵⁻²⁷

SAMe is even effective in patients previously labeled “nonresponders” to conventional drug treatment.²⁵ This led first to additional studies of SAME compared with standard drugs rather than placebos, and later to studies in which SAME was used in addition to such drugs.

SAMe consistently performs as well as or better than older-generation antidepressants such as *imipramine* and *desipramine*, drugs which are highly effective but have an unfavorable safety profile.²⁸⁻³⁰ In every case, the side effects of SAME were trivial or mild. Interestingly, one such study found that regardless of whether patients received SAME or the drug, their levels of SAME in blood rose significantly as their depressive symptoms improved.²⁸

A study conducted in 1992 demonstrated the benefits of combining SAME and imipramine for speeding the onset of the drug³¹—a critical benefit since almost all antidepressants take three or more weeks to manifest their effects, during which time patients often become discouraged and may discontinue treatment.

In 2004, a Harvard team of psychiatrists used SAME in patients who were resistant to treatment with more modern drugs.² In this open study design, the Harvard group provided **800-1,600 mg** per day of SAME orally to 30 patients who remained depressed despite adequate doses of their medications. Using even a highly conservative statistical analysis, they found that 50% of these previously resistant patients responded to treatment, with an impressive 43% experiencing complete remission of symptoms.² These compelling results prompted the same Harvard group to design a larger study to more rigorously examine SAME's benefits in *augmenting* existing drug treatments.^{1,32}



The outcome of this study was revelatory, creating a sensation within the scientific community. The group studied 73 patients who were “nonresponders” to standard treatment with selective serotonin reuptake inhibitor (SSRI) antidepressants. Subjects stayed on their SSRI for the entire 6-week study period, and took **800 mg** of SAME, or a placebo, twice daily. Their depressive symptoms were monitored using the standard Hamilton Depression Rating Scale. Thirty-six percent of the supplemented patients responded to treatment, and 26% experienced complete remission of their depression—patients who had not felt any difference with standard medications. The placebo recipients had a much worse response rate; just 18% felt a difference and a dismal 12% experienced complete remission.¹

Support for the Aging Brain

Experts have known for more than a decade that severely reduced brain levels of SAME are directly linked to Alzheimer's disease.¹ More recent research reveals a direct correlation between levels of SAME in the brain and Parkinson's disease. In aging individuals stricken with Parkinson's disease, parkinsonian symptoms (including increased levels of *neurodegeneration*) have been shown to be *worse* when SAME levels are low, while cognitive function is markedly *better* when levels of SAME are higher.² At the core of SAME's ability to support brain function and neuronal health is its role in boosting levels of *glutathione* (GSH) and enhancing the antioxidant power of *superoxide dismutase* (SOD).³ Scientists have noted that these twin capabilities underscore SAME's importance as a *neuroprotective* compound, given the extraordinarily high metabolic activity and energy-intensive demands of both brain cells and neurons.³

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The lead author of the Harvard study, Dr. George Papakostas, noted “SAME can be an effective, well-tolerated, and safe adjunctive treatment strategy for serotonin reuptake inhibitor nonresponders with major depressive disorder.”¹

Summary

A landmark study funded by the National Institute of Mental Health revealed that the addition of S-adenosylmethionine or **SAME** produces compelling results in major depression sufferers taking SSRIs, the *majority* of whom do not experience relief with prescription drugs alone. SAME is a naturally occurring molecule found in all living cells, where it supports a host of chemical functions necessary for normal brain activity. It has been found to be safe at very high doses. Despite a wealth of data from the early 1990s, SAME hadn’t found clinical acceptance until very recently, when new, rigorously controlled trials demonstrated its effectiveness in instances where drugs don’t work. Given SAME’s impressive safety record, virtually anyone suffering from depressive symptoms should consider it, whether currently taking medication or not. ●

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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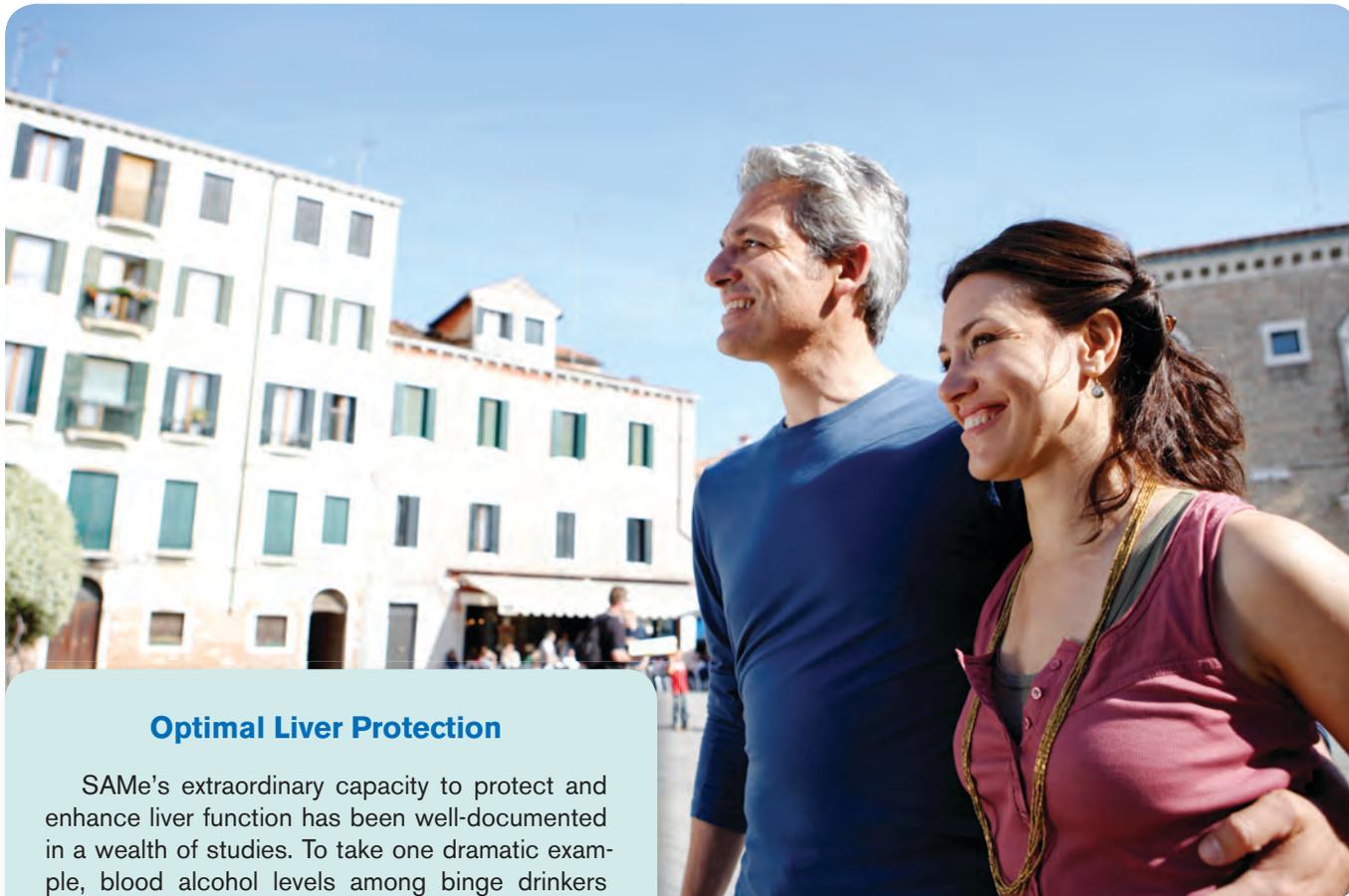
Arthritis Defense

A comprehensive 2002 SAME study conducted by the US Department of Health and Human Services confirmed SAME’s power not only to sustain mood, but *also* to optimize joint function.¹ Clinical trials have shown reduced pain and stiffness in aging individuals stricken with osteoarthritis, while in vitro and animal studies have shown SAME can *stimulate* the production of cartilage—a crucial factor in halting and *reversing* arthritis’s progression.² Scientists have even found SAME to be as effective as ibuprofen at reducing morning stiffness, pain at rest, pain during motion, swelling, “cracking” or “popping” sounds, and limited range of motion in arthritic joints.³

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Optimal Liver Protection

SAME's extraordinary capacity to protect and enhance liver function has been well-documented in a wealth of studies. To take one dramatic example, blood alcohol levels among binge drinkers who ingest SAME at the point of consumption have been shown to be significantly lower than controls.¹ In 2010, researchers were able to determine why: SAME boosts the liver's alcohol elimination rate by increasing expression of genes within liver cells that are specifically involved in alcohol metabolism.¹ *Insufficient* levels of SAME have also been linked to a variety of liver diseases, including nonalcoholic fatty liver disease and nonalcoholic steatohepatitis, both increasingly common disorders characterized by fat deposits in liver tissue that may progress to cirrhosis and full-blown liver failure.^{2,3} Scientists believe SAME supplementation can prevent the onset and progression of these potentially fatal conditions.

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Harvard Clinical Trials of SAME

In a recent study published in the *American Journal of Psychiatry*, the results of a clinical trial conducted at Harvard Medical School and Massachusetts General Hospital were announced. The researchers found a significant benefit in male and female patients taking S-adenosylmethionine (SAME) as an additive therapy to treat major depressive disorders.¹

What made the findings of this study so remarkable is that this favorable response was observed in those who had already failed to respond to standard antidepressant drugs.¹

This double-blind, randomized controlled trial to evaluate SAME as an additive therapy against major depression in this drug-resistant population was funded by *The National Institute of Mental Health*.¹

The trial is a follow-up to a smaller study in 2004 that found greater benefit when antidepressant drugs were combined with SAME than when these drugs were used alone.² In the current investigation, Harvard Medical School researchers assigned adult depressives taking serotonin reuptake inhibitor drugs (like Prozac[®], Effexor[®], Celexa[®], Zoloft[®], Paxil[®], and Cymbalta[®]) to receive **800 mg** SAME or a placebo twice per day for six weeks. Those who received SAME experienced a 36.1% response rate and a 25.8% remission rate, compared to a 17.6% and a 11.7% response and remission rate in the placebo group.¹ This translates into a beneficial response and remission rate that was double for those receiving SAME compared with placebo.

An accompanying editorial written by University of California-San Francisco professor of psychiatry J. Craig Nelson, MD stated that the Harvard findings are “persuasive” and that “SAME offers a novel mechanism of treatment action and opens up a new area for future exploration.”³

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LuraLean® is a registered trademark of AHD International, Inc. This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

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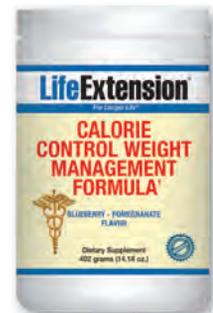
A bottle containing 120 vegetarian capsules of **LuraLean® Special Propolmannan Particle Size** retails for \$28. If a member buys four bottles, the price is reduced to just **\$18.75**.

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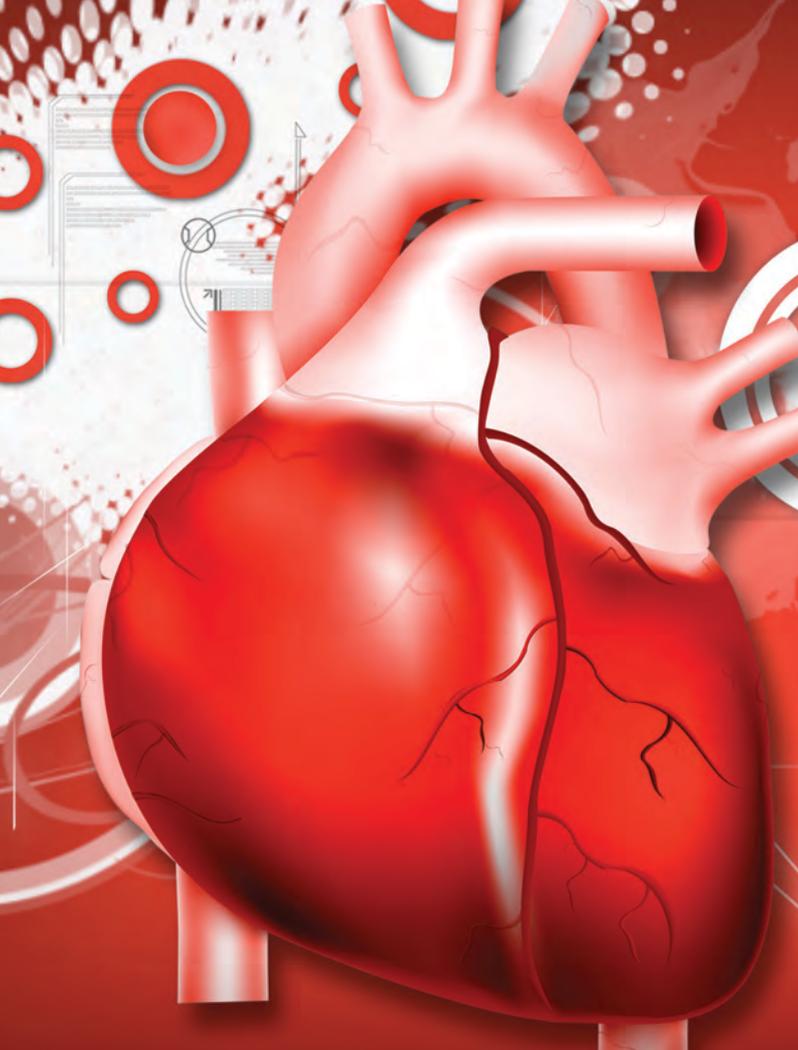
Contains soybeans and tree nuts. Contains corn.

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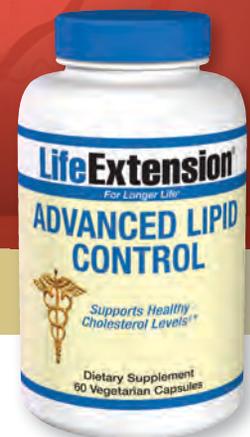
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A recent study conducted at Harvard Medical School and Massachusetts General Hospital cited the impressive benefits of SAMe for mood elevation.¹

A report published in Germany indicates that SAMe may help maintain healthy neurological function.* The impressive results showed that:

- SAMe **increased glutathione levels by 50% and glutathione enzyme activity by 115%.²**
- SAMe **decreased a measurement of free radical activity by 46%.²**
- SAMe **inhibited lipid peroxidation by 55% in culture.²**

In addition to these findings, SAMe also improves brain cell **methylation**, thereby facilitating youthful **DNA enzymatic actions** (which may help account for SAMe's mood elevating properties). These enzymatic reactions are required for the healthy conversion of neurotransmitters such as **serotonin** and **dopamine**.

It is important to note that not all SAMe is the same. The higher-quality SAMe is standardized for the **active SS isomer**. The less potent SAMe, on the other hand, predominantly contains the **inactive RS isomer**.



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Life Extension only sells the higher-grade and more potent **SS isomer**. The good news is that **SAMe** prices continue to **plummet**. Compared to when SAMe was first introduced to the United States in 1997, Life Extension members can now obtain it for **78% less**. On an inflation-adjusted basis, the savings are even greater.

A box of 20 **400-mg** SAMe tablets retails for \$32. When a member buys six boxes, the price is reduced to only **\$18.75** a box—a **savings of 40%**!

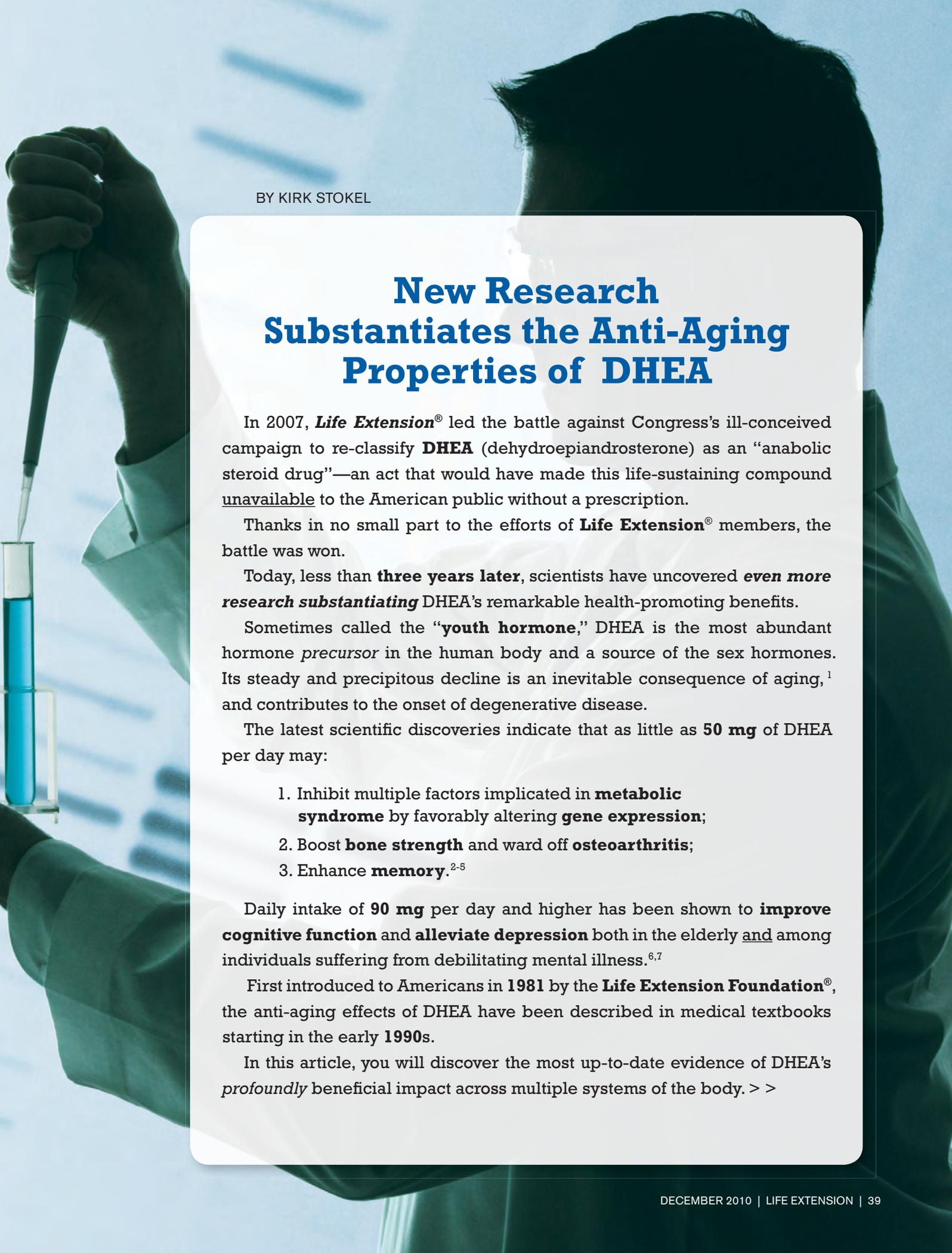
(SAMe is also available in bottles containing 50 400 mg tablets. Retail price is \$72. If a member buys four bottles, the price is reduced to \$49.50 per bottle.)

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To order your supply of pharmaceutical-grade SAMe, call 1-800-544-4440 or visit www.LifeExtension.com





BY KIRK STOKEL

New Research Substantiates the Anti-Aging Properties of DHEA

In 2007, *Life Extension*[®] led the battle against Congress's ill-conceived campaign to re-classify **DHEA** (dehydroepiandrosterone) as an “anabolic steroid drug”—an act that would have made this life-sustaining compound unavailable to the American public without a prescription.

Thanks in no small part to the efforts of **Life Extension**[®] members, the battle was won.

Today, less than **three years later**, scientists have uncovered **even more research substantiating** DHEA's remarkable health-promoting benefits.

Sometimes called the “**youth hormone**,” DHEA is the most abundant hormone *precursor* in the human body and a source of the sex hormones. Its steady and precipitous decline is an inevitable consequence of aging,¹ and contributes to the onset of degenerative disease.

The latest scientific discoveries indicate that as little as **50 mg** of DHEA per day may:

1. Inhibit multiple factors implicated in **metabolic syndrome** by favorably altering **gene expression**;
2. Boost **bone strength** and ward off **osteoarthritis**;
3. Enhance **memory**.²⁻⁵

Daily intake of **90 mg** per day and higher has been shown to **improve cognitive function** and **alleviate depression** both in the elderly and among individuals suffering from debilitating mental illness.^{6,7}

First introduced to Americans in **1981** by the **Life Extension Foundation**[®], the anti-aging effects of DHEA have been described in medical textbooks starting in the early **1990s**.

In this article, you will discover the most up-to-date evidence of DHEA's *profoundly* beneficial impact across multiple systems of the body. > >

Potent Cognitive Support

DHEA deficiency is implicated in numerous age-related conditions, including declines in brain and nervous system function. The latest research suggests that DHEA supplementation may exert powerful neuroprotective effects.

In fact, **2009** witnessed *extraordinary* advances in our understanding of the cognitive and memory-enhancing benefits of DHEA.

Two large studies showed that levels of DHEA-S in elderly patients correlated significantly and positively with cognitive function. (Chemically similar to DHEA, DHEA-S is the sulfated *form* of DHEA.)^{8,9} Prior research had shown that higher DHEA-S levels were directly associated with improved concentration, working memory, and executive (decision-making) function.¹⁰

Israeli scientists found that the cognitive dysfunction that occurs in **schizophrenia** is also partly associated with levels of DHEA-S and other neurosteroids.¹¹ Supplementation with **200 mg per day** of DHEA in schizophrenic patients improved attention and motor skills compared with placebo.⁶ Although the direct symptoms of schizophrenia were unaffected, DHEA's ability to provide relief from the cognitive deficits associated with this severe psychiatric condition may significantly improve quality of life in these individuals.

The last few years have also yielded new pre-clinical data on DHEA's neuroprotective, memory-enhancing effects. In one noteworthy study, DHEA significantly improved memory retention and consolidation in mice—especially when the experimental equivalent of an emotional stimulus was involved.¹² This may be related to DHEA's ability to stimulate the proliferation of key brain cell receptors specifically associated with memory processing.¹³

When given to aging rats, DHEA was shown to enhance brain cell utilization of ATP—the body's fundamental energy-storage molecule—thereby protecting the cell membranes from age-related damage.¹⁴ Impaired energy utilization and reduced production of ATP contribute to the “neuronal energy crises” that underlie Alzheimer's and other neurodegenerative diseases.¹⁵

A landmark 2007 study showed that DHEA supplementation of **150 mg twice daily** improved memory recall and mood in healthy young men, specifically increasing activity in the hippocampus, the region of the brain most closely associated with mnemonic function (memory).⁵



Enhance Your Mood—Naturally

Depression often accompanies aging, frequently emerging in older individuals.^{16,17} Fortunately, we now recognize depression as an essentially physiological condition—one that can be treated. Low DHEA levels are known to render aging humans more vulnerable to depression in the presence of triggers such as rejection or isolation.¹⁸ Negative emotional stimuli have been shown to *lower* DHEA levels even further.¹⁹

Supplementation with DHEA can powerfully *mitigate* depression and its effects. A *National Institute of Mental Health* study of depressive men and women aged **45-65 years** showed significant improvement over 6 weeks among those who took **90 mg of DHEA per day for 3 weeks** and then **450 mg per day for 3 weeks**, compared with placebo.⁷ The study also showed significant improvements in sexual functioning scores in supplemented patients, but not among control patients. In a rare admission from the generally conservative National Institute of Mental Health, their conclusion was, “*We find DHEA to be an effective treatment for midlife-onset major and minor depression.*”

In a set of studies, DHEA was found to improve both mood and energy while alleviating depression.²⁰⁻²² Israeli researchers also demonstrated *minimal* effects on other hormonal profiles, alleviating concerns about adverse events with DHEA.²³

A remarkable 2006 study demonstrated reduction in depressive symptoms in an especially challenging population—patients with HIV/AIDS.²⁴

Several 2009 studies revealed associations of low DHEA levels with a number of neuropsychiatric conditions and were able to show that DHEA influences **gene expression** in the brain.²⁵ For example, DHEA modulates expression of genes directly involved in **appetite regulation, energy utilization, and alertness**.²⁶ Another study demonstrated that DHEA acted in synergy with the antidepressant fluoxetine (Prozac®), leading researchers to suggest DHEA as “**a useful adjunct therapy for depression.**”²⁷

Support for Aging Bones and Joints

A 2000 study demonstrated improved bone turnover—more marked in women than in men—during a year-long study of daily **50 mg** supplementation with DHEA.²⁸ (Bone turnover is the natural process by which the body replaces old bone from the skeleton and replaces it with new bone.) By 2003, laboratory evidence emerged suggesting that DHEA could potentially *enhance* joint function and ward off **osteoarthritis** (OA).²

DHEA treatment of cartilage tissue taken from patients with OA increased production of healthy, flexible type II collagen protein, while reducing production of the less flexible type I collagen associated with scar formation.² DHEA also modified the imbalance between cartilage-destroying enzymes and those that protect cartilage from damage. These impressive effects were the direct result of DHEA's capacity to favorably modulate gene expression.

DHEA's effects on bone *structure* are no less significant. A double-blind, randomized, controlled trial of **50 mg per day** of DHEA administered orally versus placebo for 12 months showed improved hip bone mineral density (BMD) in older men and women with low DHEA-S levels, with additional improvements in spine BMD in women.^{3,29} A larger study in 2008 showed that DHEA not only improved lumbar spine BMD in women (not men) taking **50 mg per day** for a year, but it also reduced blood-borne markers of bone resorption,³⁰ an important measure of overall bone health and bone aging. Not surprisingly, the addition of **vitamin D** and **calcium** supplements to a DHEA regimen may afford further benefit.³¹

DHEA

- DHEA, the most common hormone precursor in the body, is intimately associated with youthful and healthy functioning across a range of physiological systems.
- Levels of DHEA decline steadily with age, and low DHEA levels are associated with increased cardiovascular risk, diabetes, obesity, loss of vigor and sexual energy, depression, and even visible skin aging.
- The most up-to-date scientific research indicates that DHEA can protect brain cells involved in memory function, alleviate depression and enhance mood, strengthen bone health, bolster immunity, lower blood glucose, limit the complications of obesity and diabetes, support healthy cardiovascular function, and enhance sexuality at both the psychological and physical levels.
- As little as **50 mg of DHEA per day** may favorably alter gene expression to inhibit multiple factors implicated in metabolic syndrome; boost bone strength; enhance cognitive function and memory; and ward off osteoarthritis.
- DHEA is also available in topical crèmes that has been shown to dramatically enhance the youthful appearance of skin.
- Individuals who have been diagnosed with any type of hormone-related cancer should not supplement with DHEA.





Optimal Immune Strength and Anti-Viral Protection

The precipitous age-related decline in DHEA/DHEA-S levels results in the immune deficiency we call *immunosenescence*.³² Supplementation with DHEA may beneficially modulate immunity^{33,34} to help combat debilitating age-related conditions through multiple, complementary pathways.

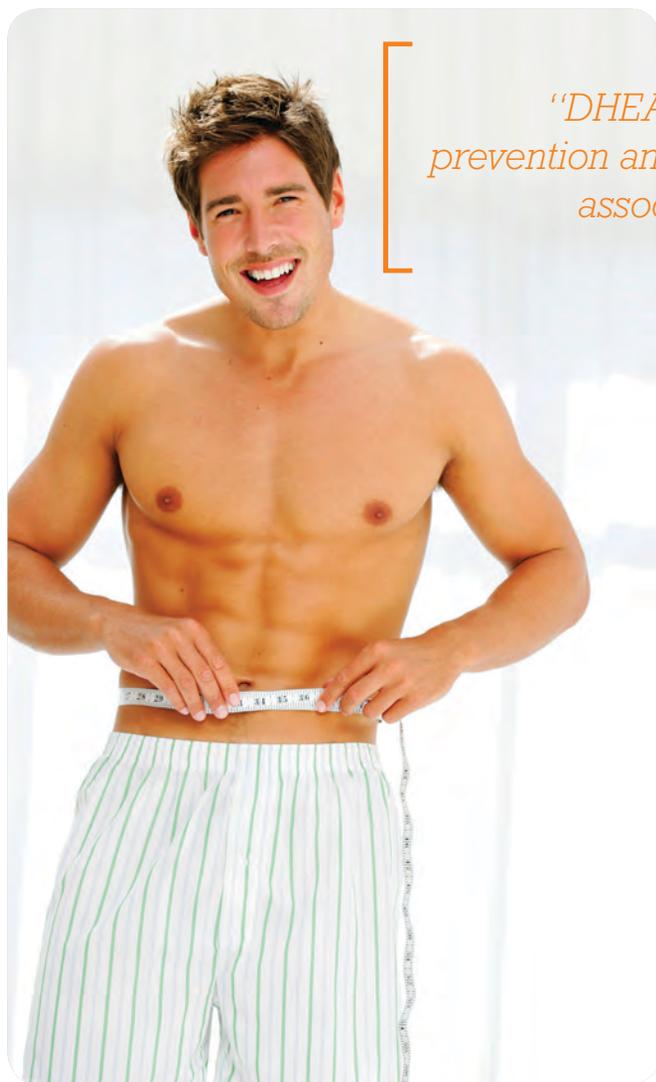
DHEA has boosted immune function in blood cells taken from patients after major abdominal surgery.³⁵ This action may help to prevent serious infections and promote healing. In the setting of dangerous infections and trauma in laboratory animals, DHEA and its metabolites markedly upregulate host immune responses, modulate inflammation, and improve survival.³⁶⁻³⁸ In animal models, DHEA's ability to raise sex hormone concentrations to youthful levels also promoted wound healing.³⁹

DHEA also possesses significant antiviral properties. It has blocked replication of several different, potentially deadly virus families in the laboratory—more effectively and more selectively than the drug **ribavirin**.^{40,41}

A 2008 study showed that DHEA also increases natural resistance to certain lethal parasites, including *Trypanosoma cruzi* (the cause of **Chagas disease**),⁴² a microorganism that causes death from heart disease and brain damage, particularly in immunocompromised patients. Subsequent research conducted in 2009 found that DHEA supplementation *reduced* parasite levels, raised levels of defensive macrophage white blood cells, and increased levels of immune signalling *interferons*.^{43,44}

Among individuals stricken with autoimmune disorders such as rheumatoid arthritis or lupus, treatment with conventional corticosteroids not only *over-suppresses* the immune system, it can also promote bone resorption and catastrophic fractures. DHEA has been shown to reduce expression of **cytokines** and other factors that lead to bone resorption in steroid-treated tissue, while still suppressing inflammation effectively.⁴⁵

There's good news for asthma and allergy patients who respond poorly to regular steroid usage as well. DHEA is now known to suppress **allergy-induced inflammatory cytokines** in reactive airway cells while increasing the ratio of beneficial interferon to inflammatory cytokines—highly significant advances in the management of this troubling condition.⁴⁶



“DHEA replacement could play a role in prevention and treatment of the metabolic syndrome associated with abdominal obesity.”

Combat Metabolic Disorders

We’ve known for over a decade that DHEA protects against obesity and its consequences in aging and diabetic animals.^{47,48} In 2009, scientists confirmed that **low DHEA levels in men** were linked to **diabetes** and **coronary heart disease**.⁴⁹ DHEA powerfully *modulates* gene expression to shift the metabolic balance in favor of energy utilization and away from storage as fat.⁵⁰

DHEA also activates gene expression of cellular machinery that affects a cell’s consumption of fats and sugars to remove them from circulation.^{51,52} These molecules help correct harmful lipid abnormalities and unhealthy body fat distribution—a possible mechanism by which DHEA decreases total body fat.^{53,54}

In 2007, researchers demonstrated in aged rats fed a high-fat diet that DHEA increased body protein, while decreasing total caloric intake, body weight, body fat,

and total size and number of fat cells.⁵⁵ In a related experiment, researchers discovered that DHEA could change the composition of adipose tissue, boosting levels of beneficial **omega-3 fatty acids** while reducing harmful omega-6 fatty acids.⁵⁶

A human study showed how powerfully these DHEA effects can modify body composition.⁴ When 52 elderly men and women took **50 mg per day** of DHEA or placebo for 6 months, it *reduced* stubborn abdominal and subcutaneous body fat. Insulin levels dropped significantly in supplemented patients as well, indicating **enhanced insulin sensitivity**. The researchers concluded appropriately that **“DHEA replacement could play a role in prevention and treatment of the metabolic syndrome associated with abdominal obesity.”**

DHEA is highly protective against diabetes and its complications. In diabetic rats, DHEA prevented increases in oxidant stress and oxidative damage related to the disease. It also significantly improved blood vessel relaxation, improving blood flow.⁵⁷ DHEA induces genes in muscle tissue that increase uptake and utilization of blood glucose as energy, significantly lowering blood sugar in diabetic animals.⁵⁸ In humans with **type 2 diabetes**, DHEA counteracts oxidative imbalance and the formation of deadly **advanced glycation end products** (AGEs), and downregulates the inflammatory TNF-alpha system—effects that may prevent the onset and slow the progression of deadly diabetes.⁵⁹

Cardiovascular Disease Defense

The past several years have witnessed extraordinary advances in our understanding of DHEA’s cardioprotective power—and its relationship to cardiovascular disease.

A 2009 study of 153 diabetic men with stable coronary heart disease (CHD) found that **77%** were DHEA-S deficient, significantly more than in healthy peers.⁶⁰ Over the next 19 months of follow-up, **43** of those men died of CHD; the data showed that **low DHEA-S** and low testosterone levels were two of the four most *significant* predictors of death.

Another 2009 study of 247 men with a mean age of 76 years revealed that those with **low DHEA-S** had a **96%** increased risk of **diabetes** and a **48%** increased risk of **coronary heart disease**.⁴⁹

A 2009 study from the University of Pennsylvania discovered a surprisingly close relationship between **mortality** and the trajectory of **DHEA-S decline** in older adults.⁶¹ Specifically, a rapid or *erratic* decline in DHEA-S predicted earlier death, and both together increased the death rate by nearly **threefold!** Regular blood testing for healthy DHEA-S levels are the only way to detect these lethal changes in DHEA levels early. It is of *paramount* importance that you have your DHEA-S levels checked at least once a year.

A Mayo Clinic study found that DHEA supplementation (**50 mg per day**) in women with low DHEA levels and low adrenal function improved plasma DHEA content, significantly lowered total cholesterol, and tended to reduce triglyceride and low-density lipoprotein (LDL) levels.⁶² But supplemented patients also had reductions in their beneficial high-density lipoprotein (HDL) levels. This study suggests that long-term studies are needed to determine the impact of DHEA supplementation on cardiovascular risk in women with low adrenal function.

Additional support for DHEA's benefits in patients suffering from vascular disease came in two remarkable 2009 studies.^{63,64} The first examined vascular remodeling, a dangerous process that occurs when vessels are *injured* by atherosclerosis.⁶³ Vascular remodeling can impede blood flow and ultimately worsen cardiovascular disease.⁶⁵



DHEA significantly *inhibited* vascular remodeling in a rabbit model of carotid artery injury and limited deadly buildup of smooth muscle in vessel walls.⁶³ Another study of rabbits fed a high-fat diet showed that DHEA supplements restored oxidative balance, lowered lipid levels and inflammatory damage, and prevented heart muscle tissue death and dysfunction, delaying the onset of cardiac damage.⁶⁴

Enhanced Well-Being and Libido Even in Challenged Populations

Studies as early as 2000 demonstrated how DHEA improved well-being and could help to manage menopause without deleterious effects.^{28,66} In 2006 it was revealed that **50 mg per day of DHEA** could improve psychological well-being even in challenging populations such as those with decreased pituitary function.⁶⁷

DHEA exerted a remarkably positive effect on health-related quality of life in women taking long-term steroids for **lupus** (chronic steroid therapy can produce powerful depression and reduction in quality of life measures).⁶⁸ Of particular importance, the DHEA-supplemented groups also reported improvement in sexuality.

Additional research supports an excitatory effect for DHEA on **sexuality**—especially in women. In one study, sixteen sexually functional postmenopausal women were randomly given either placebo or a single DHEA supplement of **300 mg**, 60 minutes before presentation of an erotic video.⁶⁹ Women in the supplement group showed significantly greater mental *and* physical sexual arousal during the video than did the control women. The supplemented women also reported a greater increase in positive affect (generally feeling good) compared to placebo recipients.

A 2009 animal study may shed light on some of the physical *causes* behind these benefits: DHEA applied to the smooth muscle of rabbit clitoris resulted in significant relaxation,⁷⁰ allowing the increased blood flow and engorgement that results in enhanced sensitivity during **sexual arousal**.

Favorable Gene Expression for Youthful, Glowing Skin

A growing body of scientific evidence suggests that DHEA has *especially* favorable effects on skin health and appearance. In a 2000 laboratory study, DHEA was shown to increase production of **collagen**—the protein that gives youthful skin its suppleness—while *decreasing* production of the collagenase enzymes that destroy it.⁷¹

It wasn't until 2008, however, that Canadian scientists discovered more than 50 **DHEA-responsive genes** in the skin of women using a topical DHEA crème.⁷² DHEA “switched on” multiple **collagen-producing genes** and reduced expression of genes associated with production and cornification (hardening) of the tough keratinocytes that form **calluses** and **rough skin**. The researchers concluded, “DHEA could exert an anti-aging effect in the skin through stimulation of collagen biosynthesis, improved structural organization of the dermis while modulating keratinocyte metabolism.”

Other unexpected benefits of topical DHEA on aging skin are emerging. DHEA treatment increases production of sebum, or skin oil.⁷³ Sebum not only contributes to smooth, supple skin; it also contains myriad antimicrobial components that prevent infection and irritation. Topical DHEA also improves skin “brightness” and counteracts the “papery” appearance of aging skin, combating the epidermal thinning that is a visible hallmark of aging.⁷³ The study authors note that these are “beneficial effects on skin characteristics that are rarely provided by topical treatments.”

Summary

In the past few years alone, significant scientific substantiation of DHEA's anti-aging effects has emerged. Its neuroprotective effects are now recognized as being vital in protecting memory and reducing depressive symptoms in older adults. DHEA enhances bone health by improving mineralization to reduce fracture risk. DHEA modulates immunity in a coordinated fashion, boosting resistance to infection while quelling dangerous inflammation. DHEA supports cardiovascular health and activates genes that prevent cardiovascular risk factors, including diabetes and obesity. DHEA is intimately involved in improving quality of life and bolstering sexual arousal, while dramatically improving the appearance of healthy, youthful skin. As little as **50 mg of DHEA per day** may favorably alter gene expression to inhibit multiple factors implicated in metabolic syndrome; boost bone strength; enhance cognitive function and memory; and ward off osteoarthritis. DHEA topical crèmes allow ready application of DHEA to the site of action. ●

Note: Individuals who have been diagnosed with a hormone-dependent cancer should not supplement with DHEA until their cancer is cured.



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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TRIPLE ACTION CRUCIFEROUS

Vegetable Extract with Apigenin



Item #01468



Item #01469

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

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

Scientists have identified specific extracts from **cruciferous vegetables**—such as broccoli, cauliflower, cabbage and Brussels sprouts—that help maintain healthy hormone levels. Maintaining optimal hormone balance is essential to any anti-aging strategy. **Triple Action Cruciferous Vegetable Extract** combines these plant extracts into the most comprehensive food-based, plant compilation for cell protection yet.

I3C (indole-3-carbinol) and **DIM (di-indolyl-methane)** favorably modulate estrogen metabolism and induce liver detoxification enzymes to help neutralize potentially harmful estrogen metabolites and xenoestrogens (potentially toxic, estrogen-like environmental chemicals).¹⁻⁴

Extracts of **broccoli**, **watercress**, and **rosemary** provide *glucosinolates*, *isothiocyanates*, *carosolic acid*, and *carosol*—bioactive compounds that have a multitude of favorable effects on estrogen metabolism and cell division.⁵⁻⁸ **Apigenin**, a powerful plant flavonoid found in plants such as **parsley** and **celery**, is also added to the formula to boost cell protection,⁹ while 25 mg of a natural source of benzyl isothiocyanate (BITC), are included to maintain cell health.¹⁰

For those weighing less than 160 pounds, just one capsule a day provides optimal potencies. Those weighing over 160 pounds should consider taking two capsules a day. A 60-capsule bottle of **Triple Action Cruciferous Vegetable Extract** retails for \$24. If a member buys four bottles, the price is reduced to only **\$16.50 per bottle**.

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

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

ARE YOU TAKING THE OPTIMAL FORMS OF VITAMIN E?

According to the *Proceedings of the National Academy of Sciences*, alpha tocopherol (regular vitamin E) displaces critically important gamma tocopherol in the cells.¹ While alpha tocopherol inhibits free-radical production, gamma tocopherol is required to trap and neutralize existing free radicals.²

Four prestigious scientific journals have highlighted **gamma tocopherol** as one of the most critically important forms of **vitamin E** for those seeking optimal health benefits.

Most commercial vitamin E supplements contain little, if any, **gamma tocopherol**. They instead rely on **alpha tocopherol** as the primary ingredient. However, it is gamma tocopherol (not the alpha form) that quenches **peroxynitrite**, the free radical that plays a major role in the development of **age-related decline**.^{2,3}

SESAME LIGNANS: The Natural Vitamin E Booster

Life Extension® has uncovered research suggesting that adding **sesame lignans** to gamma tocopherol may significantly enhance its beneficial effects. Sesame and its lignans have been shown to boost antioxidant levels and help maintain already-normal blood pressure.*

In a human study that combined **gamma tocopherol** with **sesame lignans**, gamma tocopherol/sesame was **25% more effective** than gamma tocopherol/tocotrienols in suppressing tissue measurements for free-radical and inflammatory damage.^{4,5} Since tocotrienols are considered nature's most potent antioxidants, the fact that low-cost gamma tocopherol with sesame is more effective is a remarkable finding.

Life Extension fortified the popular **Gamma E Tocopherol** supplement with standardized **sesame lignans**. Consumers obtain superior benefits at a much **lower cost**.

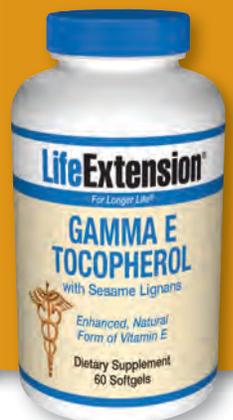
WORLD'S MOST COMPREHENSIVE VITAMIN E FORMULA!

The **Gamma E Tocopherol** formula provides potent doses of critically important gamma **vitamin E** along with **sesame lignans** to augment its antioxidant effects.

The retail price for 60 softgels of **Gamma E Tocopherol with Sesame Lignans** is **\$32**. If a member buys four bottles, the price is reduced to only **\$21.75 per bottle**.

Each softgel of Gamma E Tocopherol with Sesame Lignans provides:

Gamma tocopherol	215.4-244.12 mg
Delta tocopherol	89.75-125.65 mg
Alpha tocopherol	17.95-35.9 mg
Beta tocopherol	0-7.18 mg
Sesame seed (<i>Sesamum indicum</i>) lignan extract	20 mg



Item #00759

Contains soybeans and sesame. Antioxidant Vitamins & Cancer. Some scientific evidence suggests that consumption of antioxidant vitamins may reduce the risk of certain forms of cancer. However, the FDA does not endorse this claim because this evidence is limited and not conclusive.

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To order Gamma E Tocopherol with Sesame Lignans, call 1-800-544-4440 or visit www.LifeExtension.com

* 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.

Q: & A:



WHAT DO THESE TWO DHEA STUDIES HAVE IN COMMON?

1 STUDY

“DHEA enhances effects of weight training on muscle mass and strength in elderly women and men”

*American Journal of Physiology
Endocrinology Metabolism*
2006 Nov;291(5):E1003-8

2 STUDY

“Effect of DHEA on abdominal fat and insulin action in elderly women and men: a randomized controlled trial”

*Journal of the American
Medical Association*
2004 Nov;292(18):2243-8

LIFE EXTENSION[®] DHEA WAS USED IN BOTH STUDIES!

DHEA (*dehydroepiandrosterone*) has demonstrated many benefits, including positive effects on body composition. Regrettably, our natural production of this hormone diminishes by about **80%** between the ages of 25 and 75 years.¹ This has been associated with a decrease in muscle mass and strength and an increase in abdominal girth.

In the first of the two studies sponsored in part by the National Institutes of Health, researchers sought to determine the effect of DHEA replacement in DHEA-deficient elderly individuals. They randomized 56 men and women to receive either 50 mg/day of **Life Extension's DHEA** before bedtime or a placebo. Both groups then underwent a program of resistance training for four months. At the end of the study, DHEA replacement produced a significantly greater effect in enhancing the benefits of weight training on muscle mass and strength in both men and women compared with the placebo group.¹

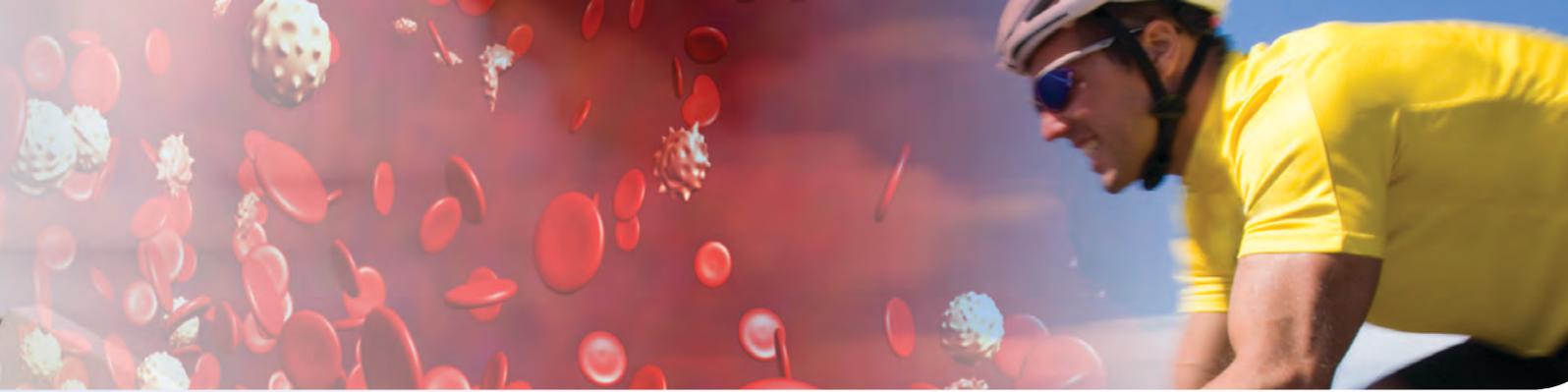
The second study cited was conducted by the same research team. The effects of DHEA-replacement therapy or a placebo on abdominal fat were investigated for the first time in 56 DHEA-deficient elderly men and women who did not exercise regularly. Using the same DHEA-dosing regimen as in the previous study, the researchers found that DHEA levels rose to youthful ranges in both men and women. This increase was accompanied by changes in body composition. Compared with miniscule changes in weight loss in the placebo group, women taking DHEA lost an average of **10.2%** of their visceral (intra-abdominal) fat, while men shed an average of **7.4%**. Subcutaneous fat (under the skin) losses averaged 6% in both men and women taking DHEA.²

DHEA is widely available as a dietary supplement. These two studies utilized **Life Extension's DHEA** formulation to safely restore DHEA levels to youthful ranges in these elderly individuals, which helped maximize lean tissue mass,¹ maintain healthy abdominal weight,² and support insulin sensitivity.²

References:

1. *Am J Physiol Endocrinol Metab.* 2006 Nov;291(5):E1003-8.
2. *JAMA.* 2004 Nov;292(18):2243-8.

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



CHOOSE THE DOSE THAT'S RIGHT FOR YOU:



DHEA 15-mg, 100 Capsules, Item #00454

While published studies show the greatest benefit occurs when 50–75 mg of DHEA is consumed each day, some women only need a low dose of DHEA. Just one of these 15-mg capsules a day is all some women need to bring DHEA levels back to youthful levels. A bottle containing 100 **15-mg** capsules of **DHEA** retails for \$12; if a member orders four bottles, the price is reduced to just **\$7.50 per bottle**. Contains rice.



DHEA 25-mg, 100 Capsules, Item #00335

The minimum dose of DHEA for most healthy aging people is 25 mg a day, though optimal doses are 50–100 mg daily. These 25-mg capsules are a popular way to consume the precise amount of DHEA your body may need. A bottle containing 100 **25-mg** capsules of **DHEA** retails for \$15; if a member orders four bottles, the price is reduced to just **\$9.38 per bottle**. Contains rice.



DHEA 25-mg, 100 Dissolve-in-Mouth Tablets, Item #00607

A bottle containing 100 **25-mg dissolve-in-mouth** tablets of **DHEA** retails for \$14; if a member orders four bottles, the price is reduced to just **\$8.81 per bottle**. Contains corn.



DHEA 50-mg, 60 Capsules, Item #00882

The optimal daily dose of DHEA for most people is 50 mg. These economical 50-mg capsules enable most people to conveniently consume the optimal dose of DHEA in just one capsule. A bottle containing 60 **50-mg** capsules of **DHEA** retails for \$16; if a member orders four, the price is reduced to just **\$10.50 per bottle**. Contains rice.

7-Keto® is a registered trademark of Humanetics Corporation. Supplements should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.



7-Keto® DHEA 100-mg, 60 vegetarian Capsules, Item #01271

7-Keto® DHEA is a metabolite of DHEA that safely increases fat-burning enzymes in the liver. Human subjects who consumed 200 mg of 7-Keto® DHEA a day in conjunction with a diet and exercise program lost more total weight and body fat than those who took a placebo.¹ Since 7-Keto® DHEA does not convert to estrogen or testosterone in the body, it can be used by those with hormone-sensitive cancers such as breast and prostate cancer. This 7-Keto® DHEA supplement contains a potent **antioxidant blend** to protect against free radicals that might be formed in response to increased fat-burning. A bottle containing 60 **100-mg** vegetarian capsules of **7-Keto® DHEA**, along with a special antioxidant blend, retails for \$40; if a member orders four bottles, the price is reduced to only **\$27 per bottle**. Contains rice.

Reference: 1. *Curr Therap Res.* 2000;61(7):435-42.



DHEA Complete (25 mg DHEA+100 mg 7-Keto® DHEA), 60 vegetarian Capsules, Item #01250

To obtain optimal potencies of both forms of DHEA, the **DHEA Complete** formula provides **25 mg of DHEA, 100 mg of 7-Keto® DHEA**, and a potent **antioxidant blend** in each capsule. For those seeking to combine the multiple benefits of DHEA and 7-Keto® DHEA, this is the ideal single-formula supplement. A bottle containing 60 vegetarian capsules of **DHEA Complete** retails for \$48; if a member orders four bottles, the price is reduced to only **\$32.40 per bottle**. Contains rice.



DHEA 100-mg, 60 Capsules, Item #00883

Some people produce so little DHEA that they need to take high doses. These 100-mg capsules provide high-potency DHEA at a very low cost. A bottle containing 60 **100-mg** capsules of **DHEA** retails for \$22.50; if a member orders four bottles, the price is reduced to just **\$14.25 per bottle**. Contains rice.

The Science of Nutrigenomics
for Glowing,
Wrinkle-Free Skin and
Radiant Health at Every Age

FOREVER YOUNG

INTRODUCING
THE
METABOLIC DIET

NICHOLAS
PERRICONE, M.D.

#1 *New York Times* bestselling author of *The Wrinkle Cure*

The Importance of Bone Health

BY NICHOLAS PERRICONE, MD

The health of our bones is instrumental to our health and longevity in general. This understanding is especially important today, because there are so many toxins and contaminants in the environment and food chain. Keeping our bones and GI tract healthy is the first step to maintaining a healthy immune system, which is vital in protecting us from the epidemics and pandemics that seem to be lurking around every corner.

Red and white blood cell production alone makes maintaining optimal bone health an important requirement for optimal overall health, especially as we age. It is no coincidence that with aging, diminishing bone health is also accompanied by reduced energy, increased fatigue, an increase in digestive problems, and an increase in maladies associated with a weakening immune system. These maladies include such disorders as rheumatoid arthritis, osteoarthritis, irritable and inflammatory bowel disorders, and a host of other chronic inflammatory and degenerative problems—another excellent reason to make sure your diet is rich in high-quality probiotics and foods that are not pro-inflammatory, since pro-inflammatory foods will compound these problems.

Bone cells and immune stem cells have a common origin and a functional relationship, just like the skin-and-brain connection known as the osteoimmune relationship. That functional relationship is the basis for the growing field of osteoimmunology. Consider this alarming fact: it is now known that chronic immune system overexertion leads to *bone loss* and can also promote *muscle wasting* and increased *fat storage*.

This unfortunate triumvirate does not have to be inevitable. Muscle wasting/loss of muscle mass in older people is called sarcopenia. I had long suspected that there was a strong link between inflammation and sarcopenia and used it as a model to measure and compare the loss of muscle mass seen in those who diet. I was not surprised to discover that patients who suffered from sarcopenia had higher circulating levels of inflammatory markers than those who experienced less loss of muscle mass, while other parameters had insignificant differences. Those other parameters, including levels of growth hormones and sex hormones, were fairly close to the same level in both groups. > >

In simple terms, the subjects with the greatest loss of muscle mass were in an inflammatory state. Inflammatory markers, such as C-reactive protein and cytokines such as interleukin-6, are elevated in the people who suffer the most loss of muscle mass, or severe sarcopenia.

This loss of both bone and muscle mass, in conjunction with increased fat storage, has very special disease implications that reach far beyond the obvious aesthetics. According to Navinchandra Dadhaniya, M.D., a specialist in geriatric medicine at Illini Hospital in Pittsfield, Illinois, a healthy young person's body composition includes 30 percent muscle, 20 percent fat, and 10 percent bone. A person age 75 or over may have 15 percent muscle, 40 percent fat, and 8 percent bone. Reduced bone density, loss of bone health, osteopenia, and osteoporosis portend much greater risks to the body than the broken hip so common in the elderly. These conditions have a systemic impact, predisposing the body to other potentially very serious disorders as well.

Bone formation—the acquisition of bone mineral density (BMD)—peaks between the ages of 20 and 30. **After the age of 35, both men and women begin to lose bone mass unless they take action to prevent it.** By the time we begin to think about our bones, we may have already suffered serious damage.

It seems hard to believe that this can happen so early in our lives. You need to protect your bones from an early age. If you are in your twenties or thirties, you can take active steps to prevent future problems. If you are older, there are exciting new strategies that can make a significant difference now.

As you will discover, specially targeted nutrients can not only slow bone loss, they can actually encourage new bone growth. While there is an extensive and compelling body of research supporting the positive effects of calcium and vitamin D3 on bone health, a review of forty-eight studies on the effects of calcium on bone health concluded that other micronutrients are needed to optimize bone health, including vitamin K2, magnesium, and trace minerals.

Vitamin K1 : Healthy Bones, Healthy Heart

Many of us are familiar with vitamin K (phylloquinone, also known as phytonadione), commonly referred to as vitamin K1, which is a fat soluble vitamin found in foods such as cabbage, broccoli, cauliflower, spinach, kale, turnip greens, and other dark leafy greens, cereals, and other vegetables. Vitamin K1 makes up about 90 percent of the vitamin K in a typical Western diet and plays an important role in



blood clotting. Because this is a fat-soluble vitamin, it is important to eat these foods dressed with a little extra-virgin olive oil to ensure absorption of the nutrient. Some studies indicate that only 10 percent of the vitamin K1 in foods is absorbed by your body.

Today, emerging evidence in human intervention studies indicate that vitamin K1 at a much lower dose may also benefit bone health, *in particular when coadministered with vitamin D*. Several mechanisms are suggested by which vitamin K can modulate bone metabolism. There is increasing evidence that vitamin K positively affects calcium balance, a key mineral in bone metabolism. The Institute of Medicine has recently increased the dietary reference intakes of vitamin K to 90 micrograms per day for women and 120 micrograms per day for men, which is an increase of approximately 50 percent from previous recommendations.

Current recommendations are based on levels to ensure adequate blood coagulation, but failing to ensure long-term optimal levels of the vitamin may accelerate bone fragility, arterial and kidney calcification, cardiovascular disease, and possibly even cancer.

Vitamin K2: Don't Leave Home Without It!

Though this is good news, the news about vitamin K2 is even better when it comes to both bone and arterial health. Vitamin K2, also known as menaquinones, stays in the body for a significantly longer time than K1. It makes up about 10 percent of a typical Western diet's vitamin K and can be synthesized in the gut by microflora.

Menaquinones (MK-n) can also be found in the diet: MK-4 can be found in meat; MK-7, MK-8, and MK-9 are found in fermented food products like cheese, and an especially rich source of MK-7 is natto, a popular, centuries-old breakfast dish in Japan made from steamed fermented soybeans.

Chairman of the Board Certified

My friend and colleague Stephen Sinatra, M.D., F.A.C.N., C.N.S., is board certified in both internal medicine and cardiology. The buildup of arterial plaque is deadly to the healthy heart, and Dr. Sinatra continually searches for effective strategies to decrease this threat. A number of studies have demonstrated the effectiveness of vitamin K2 in reversing plaque in blood vessels. **Vitamin K2 appears to assist in the decalcification of hard plaque formations.**

Dr. Sinatra has seen outstanding progress in his patients taking the MK-7 (menaquinone-7) type of vitamin K2, which offers the following unique benefits:

- Provides the most active and bioavailable form of vitamin K2, MK-7
- Helps reduce the level of calcium in the bloodstream
- Supports cardiovascular health
- Helps strengthen bones
- Aids in calcium absorption by bones
- Helps increase bone density

I recently met with Dr. Sinatra to learn even more about this remarkable nutrient. The remarkable discoveries about vitamin K2 demonstrate the holistic nature of the body and how all systems are intrinsically linked—in this instance, bone health and heart health. There is tremendous overlap among bone health, digestive health, the immune system, the cardiovascular system, and so forth.

Dr. Sinatra had impressive news from Dr. Cees Vermeer, a biochemist from Maastricht University in the Netherlands and one of the top vitamin K2 researchers in the world. Two new studies (published in *Blood*, the journal of the American Society of Hematology) by Dr. Vermeer's team of researchers have reported the following:

The first study showed that vitamin K2 is more absorbable by the body than vitamin K1, so K2 is able to provide more support for the enzyme process that contributes to bone health—and more protection against osteoporosis. This absorbability puts vitamin K2 at greater risk of interfering with Coumadin, which is a vitamin K antagonist. Vitamin K promotes clotting, and Coumadin is prescribed to keep the blood thin by preventing clotting. According to Dr. Sinatra, new evidence from Europe suggests that Coumadin may also interfere with a vitamin K2 protein system that keeps calcium out of the arterial walls. It now appears that on one hand, Coumadin thins the blood, but on the other, it contributes to arterial calcification. Coumadin causes a deficiency of both vitamin K1 and vitamin K2. It should come as no surprise to learn that Coumadin takers suffer more osteoporosis in conjunction with more abnormal calcium deposits in other areas, such as the heart valves—in fact, twice as much as those not taking the drug. Dr. Sinatra has become extremely cautious about prescribing Coumadin because of these risks, reserving its use for only the highest-risk patients.

To better understand the role of calcium in the body, consider this:

- *Normal* deposits of calcium occur only in bone and teeth.
- *Abnormal* deposition of calcium in the body occurs in three places: the intima, the innermost layer or lining of the arteries that causes atherosclerotic plaque; the heart valves; and the medial calcification, which is the muscle layer of the arteries.





Studies also show that people with coronary disease, in conjunction with reduced blood levels of vitamin K2, show *more advanced* atherosclerotic plaque. It also appears that calcium is an active participant in the buildup of coronary plaque—and not the innocent bystander once supposed!

In a second study, Dr. Vermeer found that a diet high in both vitamins K1 and K2 could prevent and reverse Coumadin-induced arterial calcification in rats. The rat arteries that were studied resembled human arteries affected by common diabetic and age-related sclerosis (hardening of tissues).

Traditionally, calcification has been thought to be an irreversible end-stage process in arterial disease. There is a very real possibility that a vitamin supplement could roll back the sclerosis that destroys the arteries. Imagine what this could mean to individuals with diabetes and heart disease.

Could it be that many detrimental physical processes associated with age are *not* part of the so-called normal aging process? More and more, the answer is yes, and many of the pillars supporting the “carved in stone” scientific beliefs are toppling. As this information demonstrates, many of these processes can actually be reversed—and, equally important, prevented altogether.

The calcium link between arteries and bone is fascinating to me. One of the biggest tragedies of aging is osteoporosis, which predisposes us to weakness, frailty, and dangerous bone fractures, greatly limiting our mobility. Unfortunately, the calcium that belongs

in our bones is transferred to arterial walls, predisposing us to cardiovascular disease and more. Adequate intake of vitamin K2 can stop this from occurring. We now have what appears to be a highly effective strategy to keep bones strong and arteries free of dangerous plaque. As you can see, **strategies that can keep bones healthy have significant impact on our cardiovascular systems as well—absolutely critical information for women with each passing decade.**

Although it is breast cancer that puts the fear of death into women, the fact is that women have a much greater chance of dying of heart disease. Vitamin K2 can greatly reduce your odds of developing this disease.

Dr. Sinatra recommends 150 micrograms daily of the menaquinone-7 (MK-7) form of vitamin K2. This is the most absorbable and active form of vitamin K, and it seems to also play a key role in managing calcium. He has also consulted with Dr. Leon Schurgers, another Dutch researcher who has studied vitamin K2 for more than thirty years. On the basis of animal studies, Dr. Schurgers believes that a 150-microgram dose of MK-7 is the minimum amount needed to build bone and decalcify arteries.

The research clearly points to vitamin K2’s critical role in cardiovascular health and calcium usage in your body. **There is no doubt that vitamin K2 is highly effective at directing calcium into your bones, where it is needed, and away from your arteries, where it does not belong.**

Calcium

Over the years, heavy emphasis has been placed on calcium and bone health, especially for women, even though men also experience bone loss, albeit at about half the rate of women.

Functional bone health encompasses much more than skeletal strength alone. A healthy skeleton does more than just lower our fracture risk. It is intimately involved with our health as an *endocrine organ*.

As such, it performs many important functions, including the production of red blood cells, immune cells (white blood cells), platelets, various growth factors, and cytokines, any of various protein molecules secreted by immune system cells that serve to regulate the immune system. Bone health also exerts an endocrine influence on the regulation of sugar homeostasis (the state of equilibrium or balance), fat storage, energy metabolism, and more.

If you really wish to be *Forever Young*, or at least as healthy and youthful as possible, we need to place a *great deal* of emphasis on maintaining healthy bone mass during each decade of life.

Bone-Building Nutrition: Calcium Is Not a Solo Act

All of the research to date demonstrates that the best result achieved by any calcium supplement is to slow the rate of bone loss—not increase healthy bone density, as is the popular notion. This is a serious misconception that I am now going to remedy.

A review of the scientific literature reveals that a wide range of supplemental nutrients, in addition to calcium, can contribute to the maintenance or increasing of BMD. Nowhere is this clearer than in the recent research on the additional health benefits of calcium, vitamin D, and other bone-building nutrients. Although calcium accounts for only about 2 percent of body weight, it is essential to many life sustaining processes that go beyond the building and preservation of bone strength. It is intimately involved in the transmission of electrical impulses that control muscles and the regulation of heartbeats. Prior to the mid-thirties, the body extracts calcium from dietary sources and stores it in bones until it is released and absorbed through the gastrointestinal tract. As we

age, this process appears to become less and less efficient. The body now needs more calcium than can be provided by the intake of commonly consumed foods and more than the bones can store. This results in a progressive decline in bone health with increased risk of fracture.

Magnesium

As the fourth most abundant mineral in the body, magnesium is essential to our good health. Approximately half of our total body magnesium is found in our bones, and the other half is distributed throughout the cells of our body tissues and organs. This essential mineral is needed for more than three hundred biochemical reactions in the body. It helps maintain normal muscle and nerve function, keeps the heart rhythm steady, supports a healthy immune system, and keeps the bones strong. Only 1 percent of magnesium is found in our blood, but the body works very hard to keep the blood levels of magnesium constant. Magnesium also helps regulate blood sugar levels, promotes normal blood pressure, and is known to

The Adverse Effects of Disease and Medications on Bone Health

A wide range of common diseases are known to decrease bone health, including insulin-dependent diabetes, rheumatoid arthritis, inflammatory bowel disease (IBD), celiac disease, anorexia nervosa/bulimia, COPD, endometriosis, hemophilia, hemochromatosis, stroke, multiple sclerosis, Parkinson's disease, spinal cord injuries, long-term immobilization, renal disease, endocrine disorders (including suppressive doses of thyroid hormones), Addison's disease, Cushing's syndrome, sarcoidosis, organ transplants, liver disease (including hepatitis and alcoholic cirrhosis), bariatric surgery, and more. A number of these disorders are either caused or contributed to by declining bone health. So it appears that there is a vicious circle working here, and one in need of a powerful cease-and-desist order.

It is very disturbing that a number of popular medications being used to treat many of these disorders also contribute to bone loss. A significant body of research has found that a wide variety of medications are associated with reduced bone health in people of all ages. The list includes glucocorticoids and related immunosuppressants, antidiabetic drugs, lithium, Depo-Provera and other contraceptives, cyclooxygenase inhibitors, proton pump inhibitors (pharmaceutical antacids), total parenteral nutrition (this means

not administered via the alimentary canal), aromatase inhibitors (letrozole, exemestane, anastrozole), gonadotropin-releasing hormone agonists (Lupron, Lupron Depot, LH-RH agonists, leuprolide), immunosuppressants, anticonvulsants (phenobarbital, phenytoin), cytotoxic drugs, and selective serotonin reuptake inhibitors (SSRIs), which lead to the issue of stress and depression. The stress hormone cortisol inhibits the cells that form bone. Excess cortisol also causes many other negative effects, including the storage of abdominal fat.

While stress and excess stress-induced depression have been shown to cause loss of bone mass, antidepressant medications have been shown to cause even further significant bone loss. This is another issue of special importance to women going through menopause, who experience a greater rate of depression and its related disorders and who are prime candidates for such medications. This could be a situation where the "cure" is worse than the disease. Another recent study suggests that diabetics who are being treated with thiazolidinedione, an antidiabetic drug, provided "further evidence of a possible association between long-term use of thiazolidinediones and fractures, particularly of the hip and wrist, in patients with diabetes mellitus."

be involved in energy metabolism and protein synthesis. Magnesium also plays a role in preventing and managing hypertension, cardiovascular disease, and diabetes.

Magnesium Deficiency: We Are All at Risk

If your digestive system or kidney function is compromised, it can significantly influence magnesium status because magnesium is absorbed by the intestines and then transported through the blood to cells and tissues.

The bioavailability of magnesium is reasonable, with one-third to one-half of dietary magnesium being absorbed into your body. Gastrointestinal disorders that impair absorption, like Crohn's disease, can limit the body's ability to absorb magnesium.

It is interesting to note that healthy kidneys limit the urinary excretion of magnesium to compensate for low dietary intake.

However, some medications cause excessive loss of magnesium in urine as a side effect. Also, poorly controlled diabetes and alcohol abuse cause the body to lose excessive amounts of magnesium.

What Is the Best Way to Get Extra Magnesium?

You can do so by eating a variety of whole grains, legumes, and vegetables (especially dark green, leafy vegetables containing chlorophyll) to increase your dietary magnesium intake. Fish such as halibut is an excellent source, as are spinach, black beans, and pumpkin and squash seeds.

A more balanced approach is to take magnesium with your calcium supplement, as the two minerals work together in several ways to maintain balance. If you have low blood levels of magnesium, it is important that you have the cause, severity, and consequences evaluated by your doctor. If you have kidney disease, you may not be able to excrete excess magnesium and should not consume magnesium supplements unless they are prescribed by a physician.

Thanks to its calming effects on the nervous system, magnesium can help ease anxiety, relax muscles, promote stress relief, decrease levels of the stress hormone cortisol, and promote a good night's sleep.

Vitamin D

Vitamin D is a fat-soluble vitamin that functions as an important hormone. Vitamin D communicates to the intestines to increase the absorption of calcium by as much as 80 percent. Vitamin D is also well known for maintaining normal calcium levels. These are just a few

of the extremely important functions of this essential nutrient.

In addition, other important minerals and nutrients that assist in building bone density are choline-stabilized orthosilicic acid, boron and the omega-3 essential fatty acids.

Studies show that choline-stabilized orthosilicic acid (ch-OSA™), improves the bone health benefits of both calcium and vitamin D. Ch-OSA helps build and maintain bone by regulating bone mineralization, helping to trigger the deposition of calcium and phosphate, reducing the number of osteoclasts (bone destroying cells) and increasing the number of osteoblasts (bone building cells).

Scientific data on boron clearly shows its essential role in maintaining bones and joints in an optimal physiological state. The omega-3s offer many benefits including protection against bone loss.

Vitamin D Supplements

There are many health benefits of vitamin D, and a vitamin D supplement may be a strategy to ensure adequate levels. But what vitamin D supplement is best?

Since a large body of science shows that vitamin D works closely with calcium and magnesium, it is best to take vitamin D in combination with calcium and magnesium to maintain a proper balance. Recent literature shows that most calcium supplements have too little vitamin D to be effective. And some of them use synthetic vitamin D2. A much better form is natural vitamin D3, which stays in your system longer and with greater effect.

I want to drive home the message that you must do everything naturally possible to enhance bone health and make it your most important health priority, especially if you are nearing menopause. For all of you who have a decade or more to go before menopause, now is the time to ensure that your bones are receiving optimal nutrition to protect them now and in the future. If you are a mother with daughters, even better, as you can start them on the road to improved bone and immune health, which will provide them with a strong, healthy body.

Almost every system of the body benefits from improved bone health. In fact, improving bone health at any age seems to be an important factor in our ability to slow the clock of aging. It is not too far a stretch to say that healthy bones are the foundation of the fountain of youth—because you can't have one without the other. ●

The cover price of *ForeverYoung* is \$26. Member price \$18.20. To order *Forever Young* (item # 33827) call 1-800-544-4440 or visit www.LifeExtension.com

COMBAT INFLAMMATION

with ARTHRO-IMMUNE JOINT SUPPORT

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

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

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

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

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

One capsule provides:

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

References:

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2. *Clin Rheumatol.* 2009 Aug;28(8):931-46.
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CAUTION: Do not take if you have gallbladder problems or gallstones. If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your health care provider before taking this product.

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



Item #01404

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

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

Super Vitamin K Softgels




Super K formula provides in just one daily softgel:

Vitamin K1	1000 mcg	Item #01224
Vitamin K2 (MK-4)	1000 mcg	
Vitamin K2 (MK-7)	100 mcg	

Humans get most of their vitamin K from green vegetables in the form of **vitamin K1**. The problem is that K1 is tightly bound to plant fiber and only a small fraction *absorbs* into the bloodstream.

Vitamin K2 is absorbed much more efficiently than K1. Scientific studies show **K2** provides overwhelmingly superior benefits for the bones, arteries and other tissues.¹⁻⁸

The predominant sources of **K2** in Western diets are organ meats, dairy and egg yolks — foods that health conscious people seek to minimize. The result is that most people in Western societies are not obtaining *optimal* potencies of vitamin K.

The solution is to use a vitamin K supplement that provides ideal potencies of K1 and the two active forms of K2.

Ideal Forms of Vitamin K2

Two forms of **vitamin K2** have been extensively researched and the findings reveal vastly improved effects compared to K1.

The **MK-4** form of vitamin K2 is the most rapidly absorbed and is now routinely used in Japan to maintain healthy bone density. **MK-4**, however, only remains active in the blood for a few hours.

In contrast, the **MK-7** form of vitamin K2 boasts a very long half-life in the body, yielding higher sustained levels in the blood, for optimal transport of calcium into bone tissue.⁹

Both **MK-4** and **MK-7** have demonstrated remarkable health benefits when studied in human populations.

The Most Complete Vitamin K Formula

Vitamin K1 is the form found in plants and vegetables and should be part of most people's daily supplement regimen. Even more important is inclusion of the **MK-4** and **MK-7** forms of **vitamin K2**.

Based on data substantiating the long-acting effects of **MK-7**, one can achieve far higher sustained blood levels of this critical nutrient.

The virtue of Super K is that it provides the precise amount of the long-acting **MK-7** form of **vitamin K2** that human studies have shown provides optimal K2 levels over a 24-hour period. The **MK-4** is included to provide the rapid increase in vitamin K blood levels that may account for its beneficial effects in certain studies.

All Three Forms of Vitamin K

Super K with Advanced K2 Complex provides all three forms of vitamin K that the body can utilize.

The retail price for a bottle containing **90 softgels** (three-month supply) is \$26. If a member buys four bottles, the price is reduced to just **\$17.25 per bottle**.

The same **Super K** formula containing the identical potencies of Vitamin K1, K2 (MK-4) and K2 (MK-7) can be found in the **Life Extension® Super Booster**. If you take the **Super Booster**, you do not need additional **Super K** softgels.

Contains tree nuts (coconut).

References:

1. *Vitam Horm.* 2008;78:393-416.
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3. *Calcif Tissue Int.* 1996 Nov;59(5):352-6.
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Warning to Coumadin® (warfarin) Drug Users

Patients prescribed vitamin K-antagonist anti-coagulant prescription drugs like warfarin should consult their physician before taking vitamin K supplements like Super K and Super Booster. There is evidence, however, that users of drugs like warfarin could benefit from a consistent low dose of supplemental vitamin K. Ask your doctor if you can take a low dose (45 mcg a day) of vitamin K2 in the long-acting MK-7 form for the purpose of stabilizing your INR levels and also protecting your body against long-term vitamin K deficit. Do not initiate any form of vitamin K supplementation without full cooperation of your treating doctor, as your doctor may need to increase your dose of warfarin to compensate for the vitamin K you supplement with. Life Extension provides several forms of low-dose vitamin K for physician consideration.

To order Super K formula or Super Booster, call 1-800-544-4440 or visit www.LifeExtension.com

BONE RESTORE

for Lifelong Bone Health

Just five capsules of Bone Restore provide:

Highly-Absorbable Calcium (from dicalcium malate, bis-glycinate, 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

Maintaining strong, healthy bones is a cornerstone to successful aging. Unfortunately, even supplement users often fail to consume enough **calcium, vitamin D**, and other nutrients shown to help maintain healthy bones.

New research on **vitamin D** has led an increasing number of experts to advise men and women to consume **1,000 IU** (and higher) of vitamin D each day to help maintain bone density.

The daily dose of **Bone Restore** provides **1,200 elemental milligrams** of highly absorbable **calcium**, plus **1,000 IU** of **vitamin D3**.

Bone Restore also contains ample **magnesium**, along with nutrients that enable calcium and magnesium to be incorporated in the bone matrix.

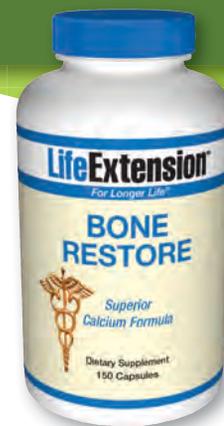
**To order Bone Restore, call 1-800-544-4440
or visit www.LifeExtension.com**

In addition, **Bone Restore** delivers a patented form of **boron** that is identical to natural plant forms found in food. Considered more bioavailable than other forms of boron, **FruiteX B® OsteoBoron®** supports healthy joints and bone.

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

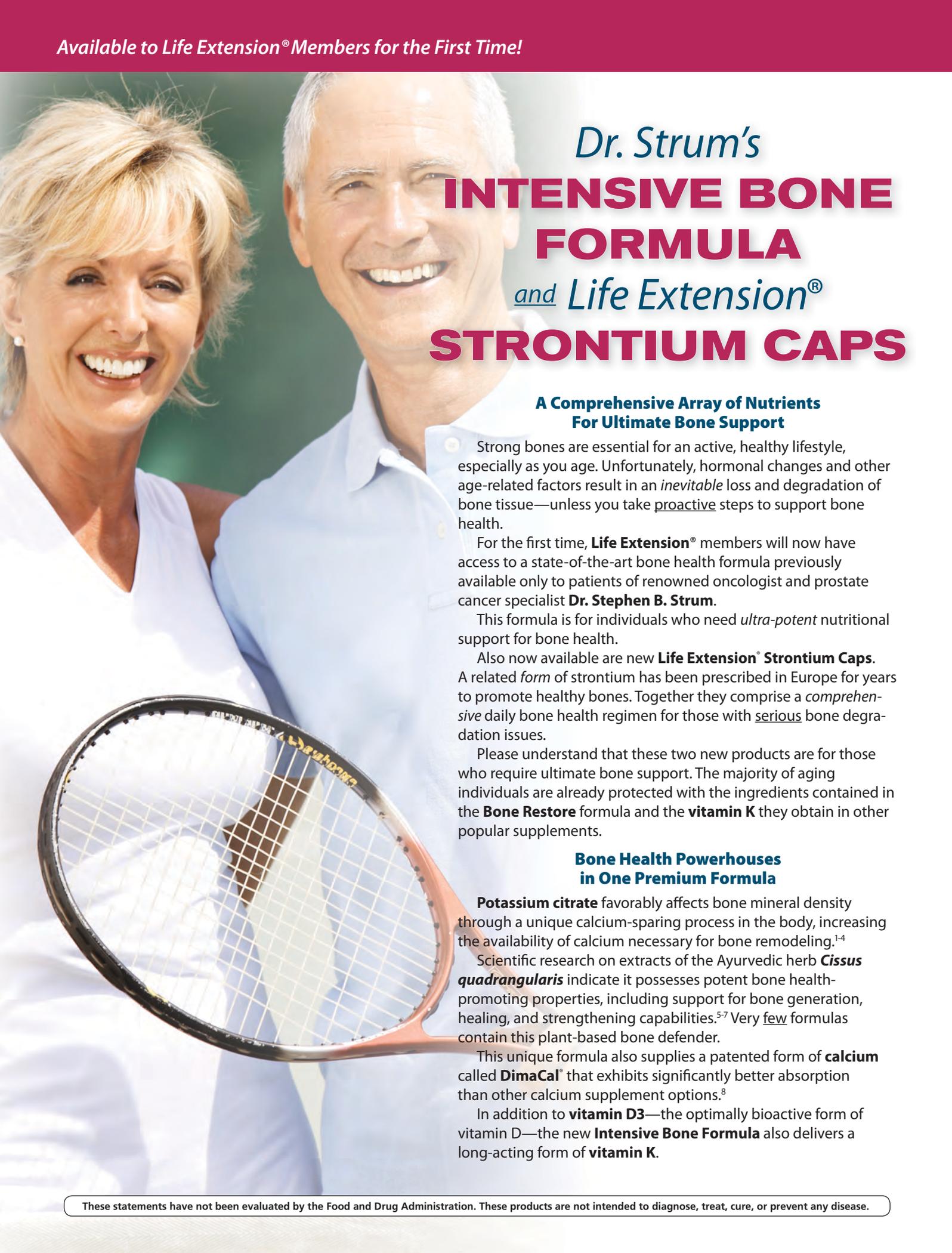
The retail price for 150 capsules of **Bone Restore** is \$22.50. If a member buys four bottles, the price is reduced to just **\$14.63** per bottle. Contains corn.

FruiteX B® and OsteoBoron® are registered trademarks of VDF Futureceuticals, Inc., U.S. Patent No. 5,962,049.



Item #00811

Available to Life Extension® Members for the First Time!



Dr. Strum's
**INTENSIVE BONE
FORMULA**
and Life Extension®
STRONTIUM CAPS

**A Comprehensive Array of Nutrients
For Ultimate Bone Support**

Strong bones are essential for an active, healthy lifestyle, especially as you age. Unfortunately, hormonal changes and other age-related factors result in an *inevitable* loss and degradation of bone tissue—unless you take proactive steps to support bone health.

For the first time, **Life Extension®** members will now have access to a state-of-the-art bone health formula previously available only to patients of renowned oncologist and prostate cancer specialist **Dr. Stephen B. Strum**.

This formula is for individuals who need *ultra-potent* nutritional support for bone health.

Also now available are new **Life Extension® Strontium Caps**. A related *form* of strontium has been prescribed in Europe for years to promote healthy bones. Together they comprise a *comprehensive* daily bone health regimen for those with serious bone degradation issues.

Please understand that these two new products are for those who require ultimate bone support. The majority of aging individuals are already protected with the ingredients contained in the **Bone Restore** formula and the **vitamin K** they obtain in other popular supplements.

**Bone Health Powerhouses
in One Premium Formula**

Potassium citrate favorably affects bone mineral density through a unique calcium-sparing process in the body, increasing the availability of calcium necessary for bone remodeling.¹⁻⁴

Scientific research on extracts of the Ayurvedic herb **Cissus quadrangularis** indicate it possesses potent bone health-promoting properties, including support for bone generation, healing, and strengthening capabilities.⁵⁻⁷ Very few formulas contain this plant-based bone defender.

This unique formula also supplies a patented form of **calcium** called **DimaCal®** that exhibits significantly better absorption than other calcium supplement options.⁸

In addition to **vitamin D3**—the optimally bioactive form of vitamin D—the new **Intensive Bone Formula** also delivers a long-acting form of **vitamin K**.

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.

While vitamin D's role in supporting healthy calcium distribution to bone tissue is well-established, few people know of the *equally* critical need for **vitamin K** to transport calcium from the bloodstream into the bone.⁹⁻¹¹ Together, these two vitamins help maintain youthful calcium musculoskeletal distribution throughout the body.

Also included are the *citrate* forms of **magnesium** and **zinc** for exceptional bioavailability, and **boron** and **silica** to support the bone matrix as it undergoes already-normal growth and turnover.

The daily serving of 10 capsules of **Dr. Strum's Intensive Bone Formula** supplies these 9 bone-healthy nutrients in the following amounts:

Calcium	800 mg
Vitamin D3	8,000 IU
Vitamin K2	200 mcg
Potassium	1,173 mg
Magnesium	400 mg
Zinc	10 mg
Cissus quadrangularis extract	600 mg
Silica (from Bamboo extract)	5 mg
Boron	6 mg

A bottle containing 300 vegetarian capsules of **Dr. Strum's Intensive Bone Formula** retails for \$56. If a member buys four bottles, the price is reduced to just **\$37.50** per bottle.

Contains corn.

For caution, visit www.LifeExtension.com

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Item #01506

Plus ... The Bone-Supporting Nutrient You've Never Heard Of!

STRONTIUM CAPS

To ensure **Life Extension**® members have the broadest array of options to support bone health as they age, we also introduce new **Strontium Caps** (as strontium citrate).

Prescribed for years in Europe to promote healthy bone aging, strontium is an organic trace mineral whose metabolism is closely linked to that of calcium. (It resembles calcium at the molecular level.)

Strontium citrate *concentrates* in the skeletal system, where it plays a key role in supporting bone tissue density.

The suggested daily serving of 3 vegetarian **Strontium Caps** supplies **750 mg** of this vital trace mineral.

Taken together with **Dr. Strum's Intensive Bone Formula**, the new **Strontium Caps** provide a complete daily nutrient regimen for individuals in need of *especially* comprehensive bone health support.

A bottle containing 90 vegetarian capsules of **Life Extension**® **Strontium Caps** retails for \$20. If a member buys four bottles, the cost is just **\$13.50** per bottle.

Remember, these two new products are for those who require ultimate bone support. The majority of aging individuals can protect their bone density with the ingredients contained in the much lower-priced **Bone Restore**, along with the **vitamin K** obtained in other popular supplements.



Item #01476

DimaCal® is a registered trademark of Albion Laboratories, Inc.

Strontium Caps Caution: DO NOT USE WITH ORAL TETRACYCLINE OR QUINOLONE ANTIBIOTICS. Do not take within 2 hours of aluminum or magnesium hydroxide antacids. Not for use while using oral or intravenous bisphosphonate medications.

**To order Dr. Strum's Intensive
Bone Formula or Strontium Caps
call 1-800-544-4440
or visit www.LifeExtension.com**



The Liver Disease Epidemic You Need to Know About

BY KIRK STOKEL

Most people associate **liver damage** with alcohol abuse or hepatitis. Yet a stealth liver condition of epidemic proportions lurks in this country that may pose an even *greater* threat to the public health.

Roughly **one-third** of the American population¹⁻³ suffers from **nonalcoholic fatty liver disease** or NAFLD. Many of its victims don't know they have it. NAFLD can go undetected for years and may eventually progress to inflammation and scarring of the liver (**cirrhosis**) and, in some cases, **full-blown liver failure**.

A formerly rare condition, its rapid emergence has been linked to skyrocketing rates of **metabolic syndrome**³⁻⁵ and "diabesity," the term many experts use for co-occurring diabetes and obesity. While poor dietary choices are often to blame, cutting-edge research suggests that hidden genetic factors may also play a role, as some people do not metabolize **polyunsaturated fats** properly, resulting in fatty deposits in the liver.⁶

As mainstream medicine continues to struggle in the search for drugs to manage this widespread condition, emerging scientific evidence has shed light on effective natural interventions that may halt or even *reverse* its progress.

In this article, you will learn about NAFLD and its impact on overall health in aging individuals, along with the various stages of the condition, ranging from barely detectable indicators to cirrhosis and liver failure. You will also discover compelling evidence for seven potent interventions that may effectively combat this challenging and widespread disease. > >



Fat Overload, Liver Damage, and the Inflammatory Storm

NAFLD (nonalcoholic fatty liver disease) is defined as deposition of fat in the liver cells of patients with minimal or no alcohol intake and with no other known cause.⁷ The term “NAFLD” refers to a group of related and progressive conditions closely associated with overweight and obesity.²

NAFLD starts off as a low-level disturbance characterized by dull right upper-quadrant abdominal discomfort and fatigue in most patients, but it is hardly benign.⁸ Early NAFLD can ultimately progress to a more serious condition, *nonalcoholic steatohepatitis* or NASH.⁹ About a third of people with NAFLD will develop NASH.⁸ And about 20% of people with NASH will go on to liver fibrosis and cirrhosis, with its accompanying risk of liver failure and even liver cancer.^{2,8,10} Overall, people with NAFLD stand a 12% increased risk of liver-related death over 10 years.⁸

As the prevalence of overweight and obesity rises, so do the rates of NAFLD, NASH, and their end-stage consequences. Together, these conditions affect roughly 30% of US adults and, shockingly, up to 10% of our children.²

NAFLD has multiple interrelated causes. Primary mechanisms include obesity leading to steadily increasing insulin resistance coupled with an overabundance of circulating fatty acids. These factors fuel one another in a destructive cycle.⁴ Together with the recently-recognized role of advanced glycation end-products (AGEs), these events lead to increased oxidant stress and ultimately inflammation, cell death, and fibrous destruction of liver tissue.^{3,4,8}

An overload of fatty acids and abnormal lipid profiles factor so heavily in the onset of NAFLD that they’re now referred to as “lipotoxicity” because of the ways they directly poison liver tissue.^{9,11,12} And as fat builds inside liver cells, they begin churning out a storm of fat-related cytokines known as *adipokines*, which fan the inflammatory flames of the metabolic syndrome and NAFLD.¹

Unfortunately, despite a growing understanding of what goes wrong in NAFLD, scientists have been persistently baffled in their attempts to prevent and treat it with drug therapies. Lifestyle interventions such as steady, gentle weight loss and regular exercise have been the only interventions that offered any hope at all.^{2,9} Insulin-sensitizing drugs, while theoretically of value, have proved disappointing in clinical trials.

The only successful *pharmaceutical* intervention for dealing with NAFLD has been **metformin**, which will be examined below.

Cholesterol-lowering drugs like statins have no proven benefit to date.⁴ Further studies are needed to determine if bariatric surgery to induce weight loss benefits patients with NAFLD.^{9,13}

Given the nutritional origins of NAFLD, it comes as no surprise that a handful of nutrients with targeted antioxidant, anti-inflammatory, and metabolic properties have emerged in recent years as the most promising preventive therapies. A recent clinical trial of vitamin E versus the prescription drug *pioglitazone* (Actos®) provided some compelling results, and serves as an excellent introduction to a broader examination of the most promising, safe, low-cost interventions.

7 Interventions to Heal and Protect Your Liver

Vitamin E

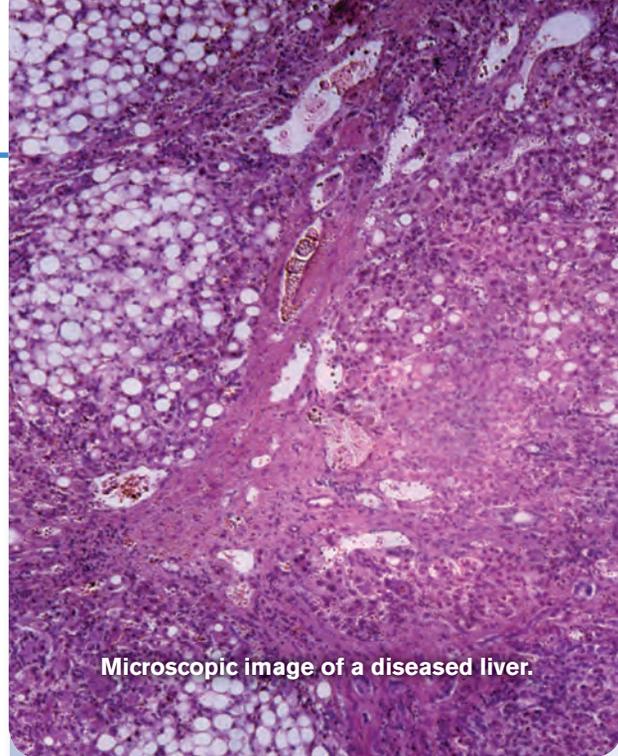
Liver scientists at the Virginia Commonwealth University Medical Center began a series of studies on NASH (the advanced middle stage of NAFLD) and vitamin E in 2004. Based on their knowledge that NASH arises from persistent insulin resistance and oxidative stress, they examined the effects of pioglitazone (Actos®), an insulin-sensitizing drug, and vitamin E.¹⁴ Their initial hypothesis was naturally that the combination of vitamin E plus the drug would produce greater benefits than vitamin E alone. And indeed, looking at liver biopsies that seemed to be the case. Patients receiving both vitamin E (**400 IU per day**) and pioglitazone (30 mg per day) had improvements in more parameters than did patients on vitamin E alone (though the vitamin E patients did show some improvement).¹⁴

Encouraged (and curious), the researchers designed an additional trial aimed at evaluating the effects of vitamin E and pioglitazone independently in patients with NASH.¹⁵ In this study, published in mid-2010, subjects received either vitamin E (**800 IU per day**) or pioglitazone (30 mg per day), or placebo, for 96 weeks.¹⁶ The results were surprising, to say the least.

Only vitamin E, and not pioglitazone, produced significant improvements in the appearance of liver tissue on biopsies.¹⁶ Both treatments improved levels of liver cell-injury markers in blood, and both reduced liver fat levels and inflammation. This study showed that vitamin E, formerly thought to be *additional* therapy for NASH, was actually superior to pioglitazone at improving liver damage. Let's now look at some clues that might have predicted these otherwise startling results, based on what was already known about vitamin E in liver disease.

Vitamin E is a powerful antioxidant, and hence an obvious choice once the role of oxidant stress was made clear in NAFLD.¹⁷ We had known since at least 1992 that people with fatty liver disease and NASH had depressed levels of vitamin E in their blood, the result of that increased oxidation.^{18,19} By the beginning of this century, relatively low-dose vitamin E (**450 IU/day**) was shown to reduce circulating liver enzymes, a chemical marker of liver cell injury.^{20,21}

Clinical trials of combination antioxidants, including one with *silybin* (milk thistle) and phospholipids showed good results at improving insulin resistance and reducing markers of liver cell fibrosis (a finding in advanced liver disease).^{22,23} In patients receiving vitamin E **1,200 IU mg per day**, overall fasting



Microscopic image of a diseased liver.

Nonalcoholic Fatty Liver Disease

- One in three Americans now suffers from the stealth condition known as nonalcoholic fatty liver disease or NAFLD.
- NAFLD may go undetected for years, and may progress to liver inflammation and scarring (cirrhosis) or full-blown liver failure.
- While chiefly driven by poor dietary choices linked to metabolic syndrome and “diabesity,” genetic factors can also play a role in NAFLD’s progress.
- Medical science has proved relatively helpless at preventing or treating NAFLD and NASH, leaving millions of Americans vulnerable to their effects.
- A host of nutritional interventions have proven effective in combating NAFLD, complementing one another as they fight the oxidative stress, insulin resistance, and fat accumulation and abnormal lipid profiles, also known as “lipotoxicity.”
- Vitamin E, omega-3 fatty acids, and the antidiabetic weight loss-inducing drug metformin each work by different but complementary mechanisms to improve liver chemistry, ameliorate liver cell damage, and improve blood flow to liver tissues in early NAFLD and even in NASH.

glucose levels improved while markers of liver cell damage decreased.²⁴ In a subgroup of those patients, there was evidence of reduced inflammation and improved expression of PPAR-alpha, a vital metabolic sensor complex, providing evidence of new and separate mechanisms of action.

This wealth of animal and now human data clearly supports daily use of 800-1,200 IU of vitamin E for prevention and treatment of NAFLD and NASH.

Important animal studies began to appear around 2009 that refined our understanding of how vitamin E works. One study provided the first evidence that vitamin E can prevent NAFLD before it develops, largely by reducing oxidative stress, inflammation, and liver cell death by apoptosis.²⁵ Another study demonstrated a vitamin E-related reduction in oxidative damage and tissue levels of the inflammatory mediator TNF-alpha, while beneficially reducing PPAR-gamma activity.²⁶ This wealth of animal and now human data clearly supports daily use of **800-1,200 IU** of vitamin E for prevention and treatment of NAFLD and NASH. Let's look at the other nutrients known to be helpful in preventing this troubling suite of conditions.

Omega-3 Fatty Acids

Just as vitamin E fights the oxidant and inflammatory components of NAFLD, the omega-3 fatty acids attack the problem of lipotoxicity, while contributing considerable anti-inflammatory activity of their own.¹² People and experimental animals with insufficient omega-3 in their diets are prone to the development of NAFLD and type 2 diabetes, suggesting that supplementation might reverse (or prevent) the process.^{12,27-29}

In fact, both in the laboratory and at the bedside, there are impressive results from omega-3 supplementation. Increasing the amount of unsaturated fats like omega-3s in cell membranes is associated with improved insulin sensitivity.³⁰ And fish oil supplements rich in omega-3 result in activation of the important metabolic sensor called PPAR-alpha in liver cells, suppressing liver production of new fat molecules.³¹ The omega-3s also contribute to improved insulin sensitivity, accompanied by a reduction in serum triglycerides and stimulation of fat utilization or burning in liver tissue and skeletal muscle.³²

A compelling, long-term human trial using **1,000 mg per day** of omega-3 in patients with NAFLD revealed significant decreases in serum markers of

liver cell damage, triglyceride levels, and fasting glucose.³³ Importantly, circulating levels of the inflammatory fat arachidonic acid were also significantly reduced. Most impressively, supplemented patients display improvement of their livers' appearance and blood flow on ultrasound exams, providing graphic evidence of the supplements' benefits.³³ Another study found that supplementation with **751 mg** eicosapentaenoic acid (EPA) and **527 mg** docosahexaenoic acid (DHA) 3 times daily for 24 weeks decreased triglyceride levels in individuals with NAFLD.³⁴

Clearly the omega-3 fatty acids deserve a place in our armamentarium of supplements to fight NAFLD, and have earned their designation as "a specific liver drug for nonalcoholic fatty liver disease."³⁵

Metformin

Because of the central role of insulin resistance in development of NAFLD and NASH, it makes sense to evaluate insulin-sensitizing drugs for their prevention.^{36,37} No oral antidiabetic drug has as broad a spectrum of action, and as hefty a safety record, as





the drug **metformin**, which is finding a host of new applications outside of diabetes itself.^{38,39}

Studies of metformin for NAFLD and NASH have multiplied in the past few years with almost uniform success. Metformin in the amount of **500 mg three times daily** for 6 months produced dramatic improvements in liver blood flow and velocity as detected by Doppler ultrasound exams.⁴⁰ A similar dose of metformin (20 mg/kg body weight for one year, or approximately **1,450 mg/day** for a 160-pound person) produced reductions in blood markers of liver cell death, though the improvement lasted only 3 months.⁴¹ On the other hand, improved insulin sensitivity has repeatedly been shown in patients with NASH and NAFLD who take metformin, and many studies have now shown sustainable improvements in liver chemistry measurements.^{36,42} And a recent study showed significant reduction in the prevalence and severity of fatty liver after 6 months' treatment with **850 mg** metformin twice daily in obese adolescents, an extremely challenging group of patients.⁴³

Metformin is an ideal drug for combination studies because of its safety and compatibility with other therapies. A 2008 study revealed that the combination of metformin with the potent antioxidant N-acetyl cysteine (NAC) for 12 months improved both liver chemistry results and measurements of insulin resistance.⁴⁴ Liver tissue evaluated by biopsy also showed improved appearance for the earlier signs of disease.

Finally, in 2010 we learned of an entirely new mechanism by which metformin fights fatty liver disease. In addition to triggering insulin resistance, the excessive supply of fatty acids to the liver also contributes

to cellular stresses. Those stresses result in liver cell death by apoptosis, accelerating conversion of NAFLD to NASH.⁴⁵ Korean laboratory researchers have now shown that metformin blocked the induction of cellular stress proteins in cultured liver cells, protecting them from death induced by fatty acids.⁴⁵ This novel mechanism adds to metformin's already impressive array of multitargeted effects on metabolism and fatty liver disease.

S-Adenosylmethionine (S-AdoMet)

Their constant exposure to oxidant and toxic stresses makes liver cells especially vulnerable to depletion of **glutathione** (GSH), a natural antioxidant that participates in many liver detoxification reactions.^{46,47} The nutrient **S-adenosylmethionine (S-AdoMet)** is one of a small group of molecules that can replenish GSH levels and restore liver cell protection to normal.⁴⁸ In individuals with alcoholic or non-alcoholic liver disease, supplementation with **1,200 mg S-AdoMet** daily increased liver glutathione levels.⁴⁹ Studies using agents that increase S-AdoMet levels are known to reduce severity of NAFLD.^{46,50}

A number of studies have demonstrated improvement in liver enzymes, an early marker of cell damage, resulting from treatment with S-AdoMet and other liver antioxidants.⁵¹ S-AdoMet supplements also produce improvements in microscopic features of NAFLD associated with fatty degeneration, inflammation, and tissue death.⁴⁸ And S-AdoMet also down-regulated damaging proinflammatory genes in a rat model of NAFLD.⁴⁸

A major discovery about S-AdoMet, however, is its ability to directly stop the progression of relatively mild

NAFLD to dangerous NASH. NASH develops as the result of “second hits,” that is, additional events that damage liver cells after NAFLD has already developed; one of those “hits” is steady depletion of SAME.⁵² This has led to interest in using SAME to prevent NASH from developing in people who already have NAFLD, thereby protecting them from the full fury of the disease.⁵³

N-Acetyl Cysteine (NAC)

Another molecule that supports and replenishes the natural antioxidant glutathione is N-acetyl cysteine (NAC), a versatile sulfur-rich compound that was first used to prevent liver damage following acetaminophen poisoning.⁵⁴ It rapidly restores depleted glutathione to normal levels, sparing liver cells from the effects of oxidant damage, which is considered a “second hit” following development of NAFLD.⁵⁵⁻⁵⁷

A NAC derivative called SNAC was recently shown to prevent onset of NAFLD in rats fed a liver disease-inducing diet.⁵⁸ In humans, the combination of NAC (1,200 mg/day) with metformin (850-1,000 mg/day) improved liver appearance and reduced fibrosis in patients with NAFLD.⁴⁴ And stunning findings in 2009 revealed that NAC, given to rats with NAFLD, could stimulate regeneration of healthy liver cells in animals that had had part of their livers removed!⁵⁹ The researchers in that study observed that NAC supported glutathione levels, and postulated that the resulting reduction in oxidative stress accounted for the good outcome.

Silymarin (Milk Thistle)

Extracts of milk thistle have long been used for liver protection. It is estimated that 30-40% of American liver disease patients use the active ingredient, silymarin.⁶⁰ Silymarin is itself composed of six major active molecules such as silybin, which are known as flavolignans, with exceptional antioxidant and anti-inflammatory activity.^{60,61} Modern science is rediscovering the use of milk thistle extracts for reduction of the impact of NAFLD and preventing its progression to NASH.

One very effective combination is **silymarin plus vitamin E and phospholipids** (such as **phosphatidylcholine**); this approach improves the overall antioxidant activity of the compound.⁶² In animal studies the combination limited liver depletion of the natural antioxidant glutathione, and reduced mitochondrial stress damage.⁶³ Human trials have shown that a preparation providing 376 mg silybin, 776 mg phosphatidylcholine, and 360 mg vitamin E produces therapeutic effects in patients with a variety of different forms of liver damage, improving insulin resistance,

reducing liver fat accumulation, and reducing blood levels of markers of liver scarring.^{22,23,64} Open studies have shown that silymarin also significantly increased survival rates in patients with alcohol-induced liver cirrhosis.⁶¹

Phosphatidylcholine and PPC

Phospholipids—fat molecules with phosphate groups attached—are major constituents of cell membranes in mammals.⁶⁵ One of the most important phospholipids in humans is **phosphatidylcholine** (PC), which is available in small amounts in the diet. Higher ratios of PC to other phospholipids in cell membranes help to assure membrane integrity in the face of oxidative and other stresses; they also help limit the progression of NAFLD into NASH.⁶⁵

A particularly rich source of PC molecules is a mixture called **polyenylphosphatidylcholine** (PPC), which is derived from **soybeans**.⁶⁶ PPC supplements in animals help to attenuate nonalcoholic liver fibrosis and even accelerate its regression.⁶⁷ PPC appears to exert this effect in part by blocking oxidant damage to cell membranes.⁶⁸⁻⁷⁰ A separate mechanism is reduction in the high cholesterol levels that precede NAFLD formation.⁷¹ PPC also prevents proliferation of scar tissue-forming liver cells in NAFLD and other forms of liver toxicity.⁷² And PPC restores liver cell levels of SAME, providing additional liver protection.⁷³ Finally, PPC attenuates liver cell death by apoptosis following chronic alcohol exposure.⁷⁴



Silymarin (Milk Thistle).



Summary

We are unknowingly in the midst of a full-blown liver disease epidemic. Fully **one in three Americans** suffers from the potentially life-threatening early-stage condition known as **nonalcoholic fatty liver disease** or **NAFLD**. Left undetected, it can progress to inflammation and scarring of the liver (cirrhosis) and full-blown liver failure. While an overload of fatty acids and abnormal lipid profiles (“lipotoxicity”) are the chief culprits, genetic factors may also play a role. Cutting-edge researchers have uncovered a handful of effective preventive therapies. Vitamin E confers resistance to oxidative stress, prevents inflammation, and improves insulin sensitivity, in some cases outperforming prescription drugs. Omega-3 fatty acids attack lipotoxicity—the other source of NAFLD-related liver damage. Metformin directly lowers fasting glucose, enhances insulin sensitivity, and improves appearance of liver tissue by ultrasound and biopsy. Recent studies reveal that metformin also prevents the impact of stress proteins produced under the stress of lipotoxicity. Finally, antioxidant supplements such as SAME, NAC, and silymarin provide additional protection through different mechanisms, while PPC stabilizes liver cell membranes and also boosts SAME levels. ●

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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Why Reading Mainstream Magazines Can be Detrimental to Your Health

BY WILLIAM FALOOD

Newsweek[®] *Magazine* recently published an article stating that reducing homocysteine levels “**has no effect on your risk of heart disease or stroke.**”¹

Their proclamation was based on a study published in the *Journal of the American Medical Association* that evaluated the impact of modest homocysteine reduction in those who had already suffered a heart attack.²

One fact that *Newsweek* failed to grasp is that homocysteine is involved in both the initiation and progression of atherosclerosis.³⁻⁵ It's a shame that these two events (initiation and progression) are not better differentiated in the scientific literature, as you will learn in the following paragraphs.

The subjects in the study *Newsweek* reported on already had a myocardial infarction (heart attack) and thus suffered severe **endothelial dysfunction**. Catastrophic failure of the endothelium might better describe the condition of the arteries of these study subjects.

Since this study was done in the UK, where dietary choices and tobacco consumption are worse than in the US, we suspect many of these post-heart attack victims' arterial systems were already so calcified, brittle, and occluded that it would be absurd to expect a modest reduction in homocysteine to protect against future strokes and coronary events.

This study *Newsweek* reported on helps confirm what *Life Extension*[®] long ago stated, i.e., unless all 17 vascular disease risk factors are corrected, there may be no benefit in reducing homocysteine alone or in combination with a statin drug in healthy individuals, and certainly not those with advanced arterial disease.

Comparing the effects of modest homocysteine reduction in people who have **already** suffered a heart attack is like saying a garden hose is useless in

putting out fires because a study showed it is unable to extinguish a raging inferno.

This analogy has more meaning than one might think. Those with severe pre-existing artery disease have already suffered such severe **endothelial dysfunction** that their arteries have become a raging oxidative and inflammatory inferno.

Therapies (like homocysteine reduction) may have protected against atherosclerosis if initiated early on, but are not by themselves going to extinguish the flames raging in one's inner arterial lining (the endothelium) after a heart attack.

Fortunately there are documented approaches to **reversing** occlusive artery disease that can be viewed by logging on to www.lef.org/heart.

Homocysteine reduction alone is not the solution for those with advanced atherosclerosis. *Life Extension Magazine*[®] long ago published that those with severe coronary atherosclerosis require aggressive approaches to suppress the 17 independent risk factors known to cause arterial blockage.

Those who rely on the mainstream media as a source for health information are often poorly informed. One reason the media get it so wrong is that rather than performing their own scientific analysis of clinical studies, they instead act as mouthpieces for the medical establishment. If a drug company-sponsored medical journal questions the value of an alternative therapy (like homocysteine reduction), the media proclaims it to be absolute fact, instead of having scientifically-trained people evaluate the study to see if it has merit.

This article exposes the many flaws of the study that the media used to attack the value of suppressing elevated homocysteine. >>

The Media's Unrelenting Attempts to Misrepresent Scientific Findings

Homocysteine is a toxic amino acid that inflicts damage to the inner arterial lining (endothelium) and other cells of the body.

In 1968, a Harvard researcher observed that children with a genetic defect that caused them to have sharply elevated homocysteine levels suffered severe atherosclerotic occlusion similar to what is seen in middle-aged patients with arterial disease. This was the first indication that excess homocysteine might be an independent risk factor for heart disease.

Elevated homocysteine is **one of 17 independent risk factors** for cardiovascular disease. For years Life Extension has graphically illustrated these risk factors as “daggers aimed at the heart.” We have changed the graphic to show 17 daggers pointed at an artery occluded with atherosclerotic plaque, as you will see on page___ of this issue. We changed this graphic because atherosclerosis adversely affects blood vessels throughout the body.

Any one of these “daggers” can initiate and propagate vascular disease. Among such risk factors, homocysteine’s role in cardiovascular and cerebrovascular disease continues to be misunderstood by mainstream medicine.

And it’s happened again. A widely publicized study in a medical establishment journal is being touted as showing “no benefit” for homocysteine-lowering therapy using vitamin supplementation.² But the study design has so many flaws, and is so misguided in its fundamental purpose, as to be entirely (even dangerously) irrelevant. The study has one valuable aspect, however. It highlights the continuing failure of mainstream medicine to understand the complexities of cardiovascular disease. It also exposes a strong bias towards single-focused, drug-oriented therapies—beneficial for pharmaceutical companies, maybe, but hardly a responsible scientific approach to disease reduction.

Here are the basic “findings” of this most recent misguided study. The authors acknowledge the unquestionable relationship of homocysteine, a toxic amino acid, with cardiovascular disease.⁶ They then seek to assess the effects of reducing homocysteine levels, using folic acid and vitamin B12 supplements, on cardiovascular and other health outcomes. And they study an enormous population (more than 12,000 people). Sounds good so far.

But in a typical “horse-is-out-of-the-barn” fashion, the study includes only people who are survivors of at least one heart attack! The main outcome measure to determine success or failure of homocysteine-lowering therapy was any major vascular event, defined as heart attack, bypass surgery or stent placement, stroke, or death from heart attack or stroke.

The researchers found no significant differences in any of these disastrous outcomes between people who’d lowered their homocysteine levels and those who hadn’t. But since 100% of the subjects in this study had already suffered a major heart attack, we know *a priori* that their cardiovascular systems were in advanced stages of malfunction. Yet the researchers concluded that “Substantial long-term reductions in blood homocysteine levels with folic acid and vitamin B12 supplementation did not have beneficial effects on vascular outcomes.”²

Sadly, this is not the first time that a prestigious journal has published such a flawed document and claimed it was good science. Two studies published in the *New England Journal of Medicine* in the middle of the last decade made similar claims.^{7,8} One studied people with existing vascular disease or diabetes,⁸ and the other studied people who had suffered a heart attack.⁷

These aren’t the only errors in these studies. And they aren’t benign errors. Suggesting that homocysteine-lowering isn’t valid prevention for cardiovascular disease is a potentially grave and dangerous mistake.



It's one that ignores most of what we actually know about the multifactorial causes of heart attacks and strokes. It's one that doesn't apply to the vast majority of people who haven't yet had a catastrophic event. And it's one that could discourage millions of Americans from adopting a powerful therapy that can contribute meaningfully to risk reduction.

Let's look harder at the most recent study, and dissect its multiple flaws. That way, readers will be able to make informed decisions about their own health.

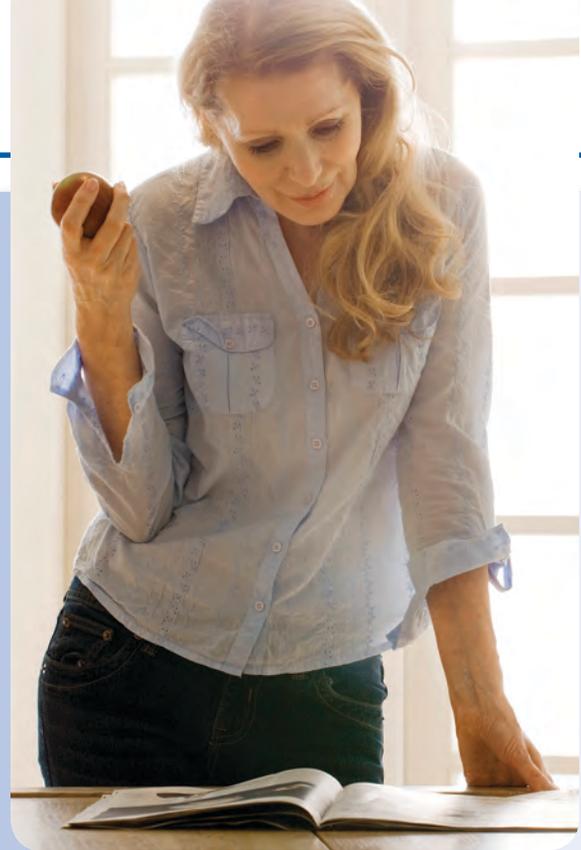
Inadequate Homocysteine Lowering

The recent *JAMA* study provided 2 mg folic acid plus 1 mg vitamin B12 daily, which are reasonable starting doses.² But the researchers made an astonishing oversimplification based on 15-year-old data. They assumed that simply lowering homocysteine levels by 3 micromoles per liter ($\mu\text{mol/L}$) would create a 20-25% lower risk of cardiovascular events.^{2,9} In other words, no matter what your baseline homocysteine level was, the researchers expected to see a linear decrease in risk for each 3 $\mu\text{mol/L}$ drop in homocysteine. That's just not how most biological systems work—there's typically a threshold level above which a given factor increases risk, and below which risk accumulates more slowly. That put the *JAMA* study at risk for failing to detect any effect in the first place.

Next, the amount of actual lowering of homocysteine levels was inadequate. Baseline homocysteine levels were 13.5 $\mu\text{mol/L}$, in the range we know is associated with increased risk of cardiovascular disease and death.^{6,10} That's hardly surprising, since all subjects had already had a heart attack. But the study protocol only brought the average homocysteine level down to 9.8.² That's still in the range known to produce a 31% increase in stroke risk, and at least a 9% increase in overall risk of dying from cardiovascular disease!^{6,10}

Worse, in their actual analysis, the *JAMA* authors lumped all homocysteine levels less than 11 $\mu\text{mol/L}$ into their lowest category. That means they included people with homocysteine levels of 7-8 right along with people who had levels as high as 10.9 into one group.² So it's hardly surprising that their analysis showed no effect. Life Extension long ago advocated that members take aggressive steps to keep homocysteine levels below 7-8 $\mu\text{mol/L}$.¹¹⁻¹³ The rationale was based on an extrapolation of the existing published studies relating to homocysteine blood levels and heart attack risk.

So the new *JAMA* study is incapable of demonstrating any effect of lowering homocysteine into the recommended range for otherwise healthy people—it just wasn't designed to do so.



Media Myths

- A recent study published in *JAMA* reported that lowering homocysteine levels with B vitamins did not reduce cardiovascular risk in individuals who had previously suffered a heart attack.
- A closer investigation of the study reveals numerous flaws that render the *JAMA* findings meaningless.
- For example, baseline homocysteine levels may not have been high enough at the study's onset and may not have been lowered enough to detect an effect.
- Many of the participants had additional cardiovascular risk factors such as hypertension, elevated LDL levels, former or current smoking habit, or other vascular factors that were not addressed in the study protocol.
- A comprehensive approach to reducing cardiovascular risk requires addressing all 17 known risk factors. Annual blood testing is an important tool in detecting hidden cardiovascular risk factors.
- B vitamins such as vitamin B12, folic acid, and vitamin B6 are required to maintain healthy homocysteine levels between 7-8 $\mu\text{mol/L}$.

Baseline Homocysteine Levels— Not High Enough in the First Place?

We've seen that patients in the *JAMA* study were sick—they had to have major cardiovascular disease just to get into the study. Why weren't their homocysteine levels considerably higher (many studies find levels of 30-50 $\mu\text{mol/L}$)?¹⁴ This is where the researchers' third major error is evident. Cardiovascular disease is the result of many different, interacting risk factors (see the "17 Daggers" Life Extension Foundation® has identified on page 84). People who have experienced actual negative outcomes such as heart attacks have obviously been exposed to many of those risk factors acting in concert over a lifetime. It's naive to expect that simply reducing one risk factor, and only modestly at that, would produce a measurable reduction in risk. That's especially true for people whose bodies are already rife with vascular damage. Life Extension advocates an across-the-board approach to risk reduction, one that addresses all of the known risk factors for cardiovascular disease. It's one centered on the fundamental problem of endothelial dysfunction.



Other Cardiovascular Risk Factors Not Considered

A glance at the baseline characteristics of patients in the *JAMA* study reveals a fourth substantial error. As with previous "no effect" studies, this most recent investigation included people with substantial additional risk factors for cardiovascular disease. Again that's hardly surprising in a study that chose to examine only subjects with a history of heart attack. For example, in addition to heart attacks, 9% of patients

Life Extension advocates an across-the-board approach to risk reduction, one that addresses all of the known risk factors for cardiovascular disease.

in this study had other vascular complications and an additional 11% had known diabetes.² Sixty-eight percent had elevated LDL cholesterol, and 42% had pre-existing hypertension. Sixty-five percent were ex-smokers, while 12% of subjects were actually still smoking at the time of the study. So a whopping 77% of subjects were vulnerable to the lifelong effects of one of the highest-risk habits known to medicine! No other risk factors, out of the myriad that are known markers for cardiovascular disease or the conditions leading up to it, were measured. That means no C-reactive protein (CRP), no determinations of insulin sensitivity or the presence of advanced glycation end-products (AGEs), and no hormonal determinations.

Finally (and typically), no other integrated therapies or lifestyle changes were provided, other than a standard dose of simvastatin, a cholesterol-lowering medication.² In other words, this was a classic mainstream medicine study looking at a single intervention in isolation. The study subjects never really had a chance.

A Fundamental Lack of Understanding of Endothelial Dysfunction

The errors in conception and design of the most recent *JAMA* study are unfortunately typical not only of modern researchers, but also of many practicing physicians. As a result, patients are often missing the benefits of some breakthroughs in what we know about cardiovascular disease. Astonishingly, the phrase "endothelial dysfunction" (and even the single word "endothelium") appears nowhere in the entire

article! Yet endothelial dysfunction is at the core of our modern understanding of atherosclerosis.

The endothelium is the single cell layer lining arterial walls. It is a potent tissue in its own right, not only protecting the thick muscular layer of the artery from damage, but also subtly detecting and transmitting information about the state of the bloodstream to the artery as a whole. The earliest event in the cascade leading to cardiovascular disease is endothelial damage. Homocysteine is one of the many common blood-borne substances that damage endothelial tissue, exposing it to oxidant and ultimately inflammatory injury.¹⁵⁻¹⁷ The damage is exacerbated throughout life by smoking, poor diet, obesity, and nutrient deficiencies.¹⁸⁻²³

Homocysteine is particularly dangerous because it can be one of the earliest (and hence one of the most preventable) causes of endothelial damage—and it does so by a host of interlocking mechanisms. Homocysteine is a potent excitatory neurotransmitter that drives oxidative stress and increases death of endothelial cells through apoptosis.¹⁵ These events lead to inflammation, an influx of fat-laden inflammatory cells, and eventually to the arterial blockage that we recognize as cardiovascular disease. And that explains why this most recent *JAMA* study, like its predecessors, was doomed to fail.

Asking Too Much and Doing Too Little

Fundamentally, these clinical studies were asking too much and doing too little. They produced only moderate reductions in homocysteine levels in people already gravely ill with cardiovascular disease. They add nothing to what we already know about the role of homocysteine in otherwise healthy people—people who still have a chance to make important changes in all of the known cardiovascular risk factors. It's vital to make those changes early, before damage accumulates, and to make them in as many risk areas as possible. Homocysteine reduction is one such area, and we have solid evidence that an early start aimed at reducing levels substantially can make a big difference.

Traditional wisdom holds that endothelial dysfunction only begins to occur in otherwise healthy people when their homocysteine levels get above the upper limit of “normal,” 15 $\mu\text{mol/L}$.²⁴ But we've known for more than a decade that even small increments in homocysteine levels—within the “normal” range—produce immediate and dangerous disruptions of endothelial function.

In a remarkable study in 1999, British researchers fed healthy young adults several different diets, two of which contained amino acid precursors of homo-

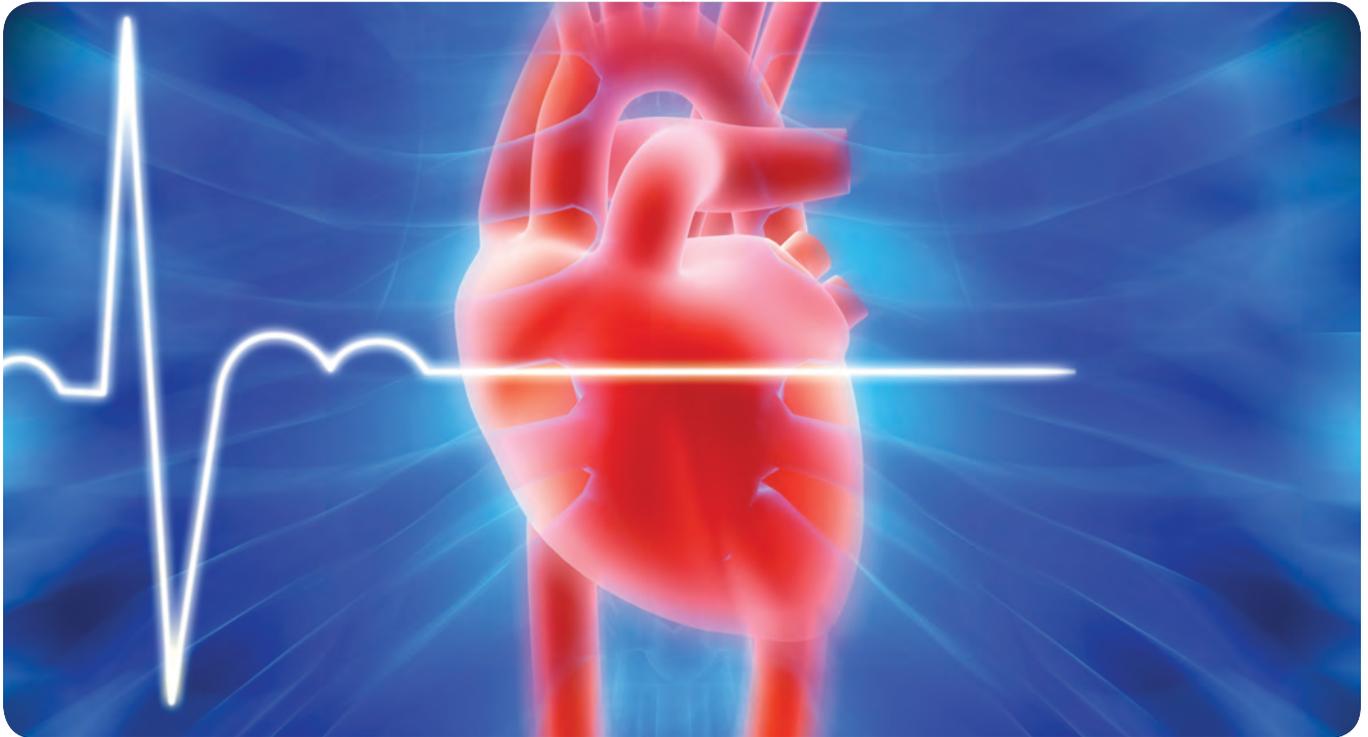


Vitamin B12's Effects on Homocysteine

Epidemiological studies show a strong association between elevated blood homocysteine levels and higher risks of cardiovascular disease in humans.^{26,27} The human metabolism requires ample amounts of B vitamins to keep dangerous homocysteine levels under control.²⁸ Folate, vitamin B6, and especially vitamin B12 are vital cofactors required by a number of enzyme systems that detoxify homocysteine by converting it into harmless amino acids. A growing number of experts now regard vitamin B12 as one of the most essential nutrients for lowering homocysteine levels.

A large study combining the results of small earlier studies demonstrated that in typical populations, daily supplementation with both 500 to 5,000 mcg of folic acid and 500 mcg of vitamin B12 would be expected to lower homocysteine levels by one quarter to one third.²⁶ That prediction has been borne out in more recent work, in some cases by studies showing that B12 is more closely related to homocysteine reduction than is folate.²⁹ In general, the higher the baseline homocysteine level, and the lower the B12 level, the greater the effect of B12 supplementation.²⁶ That was recently shown to be especially true in older men living at home, which is doubly important because of the exaggerated effect of homocysteine elevations on cardiovascular risk in some male populations.^{30,31}

Both oral and intravenous forms of B12 supplementation have been shown to reduce total homocysteine concentrations.^{32,33} High-risk populations, particularly people with end-stage renal disease on dialysis, stand to benefit even more from B12 supplementation.^{33,34} There's simply no question that, in the words of international expert Dr. Yvonne Schwammenthal of the Stroke Unit at Sheba Medical Center in Tel Aviv, “Homocysteine-lowering treatment that is cheap and well-tolerated should be considered a rational approach in patients at high risk of stroke and high concentrations of homocysteine.”²⁸



cysteine, and one that was free of such molecules.²⁵ At baseline, volunteers had mean homocysteine levels of 9.5 $\mu\text{mol/L}$. Both the homocysteine precursor-containing diets induced an immediate rise in plasma homocysteine, but only to the 11-12 $\mu\text{mol/L}$ range. Nonetheless, there was an immediate decrease in flow-mediated dilation, a sensitive measure of endothelial function. The control diet had no effect. It's hard to ask for more direct proof that small homocysteine elevations produce meaningful reductions in endothelial function and lay the foundation for atherosclerosis.

Doomed from the Outset

Armed with a realistic understanding of how homocysteine levels relate to cardiovascular risk, it is easy to see why the recent *JAMA* study failed to show any impact of minor homocysteine lowering on people with major heart disease. Reducing homocysteine by a few points, at the lower end of the scale, in people with pre-existing severe arterial damage (severe enough to have already had a heart attack), could not possibly be expected to have an impact.

The approach taken by mainstream physicians in studies like the *JAMA* report are tragically typical of their general strategy. That can be summed up as, "Find a single problem, focus on it and it alone, and judge success or failure by whether changing just the one factor makes a difference." That's a great way to sell drugs, of course—one drug per problem adds up

to tremendous revenue. But it is a poor way to manage the complexities of cardiovascular disease, for which we can identify no fewer than 17 deadly risk factors (and perhaps many more).

The Bottom Line

It's naive to claim that a single therapy can have an impact on a complex, multifaceted problem like cardiovascular disease. Homocysteine-lowering, by itself, will not prevent a heart attack. By the same token, however, throwing out several decades of solid evidence that homocysteine-lowering can substantially reduce the risk of cardiovascular disease is worse than naive—it's downright dangerous.

Studies like the *JAMA* report will no doubt continue to appear, and will continue to be misrepresented as "evidence" that close attention to homocysteine levels is unnecessary. It is in the financial interests of mainstream cardiology to deceive the public into believing the only way of treating heart disease is with bypass surgery, stents, and drugs.

A plethora of published data, however, reveals that aging humans can successfully circumvent the lethal atherosclerotic process and in many cases reverse it. It all starts with comprehensive blood testing.

The medical establishment charges around \$1,000 for the wide-ranging blood tests needed to assess coronary risk markers. As a Life Extension member, you can obtain the same tests for only \$269.

When you place your blood test order, we send you a requisition form along with a listing of blood-drawing stations in your area. You can normally walk in during regular business hours for a convenient blood draw.

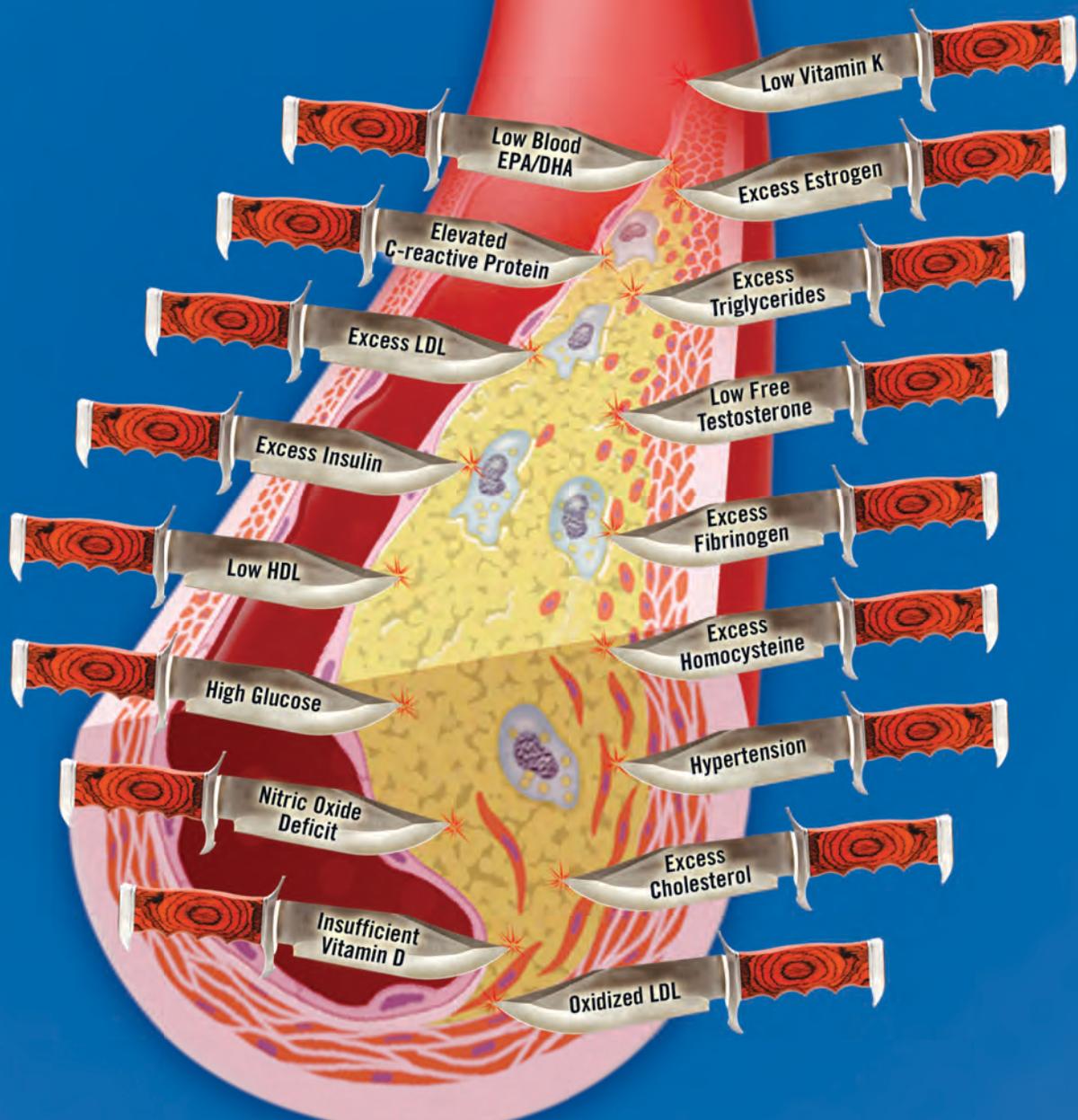
The next page describes the comprehensive Male and/or Female Blood Test Panels that all health conscious individuals should have done at least once a year. They can be ordered by calling 1-800-208-3444 (24 hours a day). ●

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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17 DAGGERS OF ARTERIAL DISEASE



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Any one of these "daggers" can initiate and propagate vascular disease. Among such risk factors, homocysteine's role in cardiovascular and cerebrovascular disease continues to be misunderstood by mainstream medicine.

MALE AND FEMALE BLOOD TEST PANELS

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HDL (high-density lipoprotein)
Triglycerides

CARDIAC MARKERS

C-Reactive Protein (high sensitivity)
Homocysteine

HORMONES

DHEA-S
Free Testosterone
Total Testosterone
Estradiol (an estrogen)
***TSH** (thyroid function)

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.....
NOW
INCLUDES
TSH!**

METABOLIC PROFILE

Glucose
Kidney function tests: creatinine, BUN, uric acid, BUN/creatinine ratio
Liver function tests: AST, ALT, LDH, GGT, bilirubin, alkaline phosphatase
Blood minerals: calcium, potassium, phosphorus, sodium, chloride, iron
Blood proteins: albumin, globulin, total protein, albumin/globulin ratio

COMPLETE BLOOD COUNT (CBC)

Red Blood Cell count including: hemoglobin, hematocrit, MCV, MCH, MCHC, RDW
White Blood Cell count including: lymphocytes, monocytes, eosinophils, neutrophils, basophils
Platelet count

CANCER MARKER

PSA (Prostate Specific Antigen)

FEMALE PANEL

LIPID PROFILE

Total Cholesterol
LDL (low-density lipoprotein) calculated
HDL (high-density lipoprotein)
Triglycerides

CARDIAC MARKERS

C-Reactive Protein (high sensitivity)
Homocysteine

HORMONES

Progesterone
DHEA-S
Free and Total Testosterone
Estradiol (an estrogen)
***TSH** (thyroid function)

**NEW
&
IMPROVED
.....
NOW
INCLUDES
TSH!**

METABOLIC PROFILE

Glucose
Kidney function tests: creatinine, BUN, uric acid, BUN/creatinine ratio
Liver function tests: AST, ALT, LDH, GGT, bilirubin, alkaline phosphatase
Blood minerals: calcium, potassium, phosphorus, sodium, chloride, iron
Blood proteins: albumin, globulin, total protein, albumin/globulin ratio

COMPLETE BLOOD COUNT (CBC)

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Contains corn.



Natural Sleep Melatonin 5-mg
60 time-release vegetarian capsules
Retail \$18 • Members \$13.50
Item# 01085
Contains corn.



Melatonin 10-mg
60 capsules
Retail \$28 • Members \$21
Item# 00331
Contains rice.

The Life Extension Foundation® was the first organization to introduce melatonin to Americans in 1992. Since then, this low-cost supplement has been touted in several best-selling books and hundreds of published scientific papers.

The wide spectrum of dosage units (300 mcg to 10 mg) enables you to choose your ideal dose. Melatonin should be taken within 30-60 minutes of going to sleep.

Cautions: Do not use melatonin if you have asthma or an autoimmune disease. When using nutritional supplements, please consult with your physician if you are undergoing treatment for a medical condition or if you are pregnant or lactating.

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

Super Booster

The Multivitamin for Your Multivitamin

Most Life Extension members make the smart choice to take a daily multivitamin formula like our Two-Per-Day or Life Extension Mix™. Unfortunately, there are several vital nutrients that cannot be incorporated into dry-powder based formulas. In order to ensure that our members have access to these critical compounds, we developed **Super Booster Softgels**.

Hard Science in a Softgel

Each **Super Booster Softgel** contains the most effective form of several **vital** nutrients, including the **potent** eye protector **lutein**, which bolsters the macula of the eye, as well as promotes healthy cell division. The softgels also contain **chlorophyllin**, which may offer additional cell protection at the DNA level by warding off environmentally induced damage.

Ginkgo biloba has been proven in hundreds of studies to have a wide variety of effects that may promote healthy neurological function and aid circulation, while the carotenoid **lycopene** has been added for those wanting to guard against LDL oxidation. For males, some evidence has shown that ingesting lycopene may lead to healthier prostate function.

For the members who take vitamin E supplements, it is vital that they consume Super Booster because it contains 230 mg a day of **gamma tocopherol**, which will combat the lethal peroxynitrite free radical. Gamma tocopherol combined with another Super Booster ingredient, **sesame lignans**, has been shown in Life Extension studies to be effective against free radical damage.

Two *forms* of vitamin K2 have also been added to bolster bone, artery and tissue health. **MK-4** is the fastest absorbed form of vitamin K2, while **MK-7** is bioavailable to the human body for an entire day. **Selenium** has been added to **Super Booster** for its known glutathione boosting effects.

A bottle of 60 Super Booster softgels retails for \$42. If a member buys four bottles, the price is reduced to just **\$28.50** per bottle.

The **Super Booster** saves consumers **huge dollars** by combining a wide variety of costly nutrients into one daily softgel. If you add up the price of the individual ingredients contained in the **Super Booster**, you would spend **two to three times more** for this potency if taken separately.

Contains soybeans and sesame.

Caution: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product. Individuals with in-born errors of copper metabolism (e.g. Wilson's disease) should avoid daily, chronic use of this product.



Just one softgel of Super Booster supplies:

Gamma tocopherol	230 mg
Ginkgo extract	120 mg
Chlorophyllin	100 mg
Vitamin K2 (as menaquinone-7)	100 mcg
Vitamin K2 (as menaquinone-4)	1000 mcg
Vitamin K1 (as phytonadione)	1000 mcg
Sesame lignans	20 mg
Lycopene	10 mg
Lutein	2 mg
Se-methyl L-selenocysteine	67 mcg
L-Selenomethionine	67 mcg
Sodium selenite	67 mcg
Vitamin B12	300 mcg
Vitamin C	90 mg
Ascorbyl palmitate	50 mg
Zinc	10 mg
Mixed tocopherols	130 mg

Lyc-O-Mato® is a registered trademark of LycoRed Natural Products Limited.

To order Super Booster, 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.

How to Successfully Fight Common Signs of Aging

These dermatologist-formulated products use the power of nature to target and repair the problems of aging skin



Dark Circles and Puffiness Under the Eyes



Your eyes are the daily focus of a great deal of attention. Unfortunately, the skin around your eyes can often be ill-prepared for this scrutiny due to the presence of embarrassing dark circles and under-eye puffiness that can make you look old and tired beyond your years.

Dark circles are commonly believed to be the result of fatigue, lack of sleep, or stress. But heredity, cumulative exposure to sunlight, and smoking are the factors responsible for damaging the underlying collagen that supports your blood vessels. This causes the tiny capillaries around your eyes to become stretched and dilated by the pressure from larger veins. Once these weakened capillary walls rupture, blood leaks out. This escaped blood pools and dries in a

deposit of disintegrating red blood cells that leaves a visible discoloration under your eyes. Other fluids collecting at the site cause swelling that increases the visibility of the darkness and puffiness.

If you suffer from this troubling condition, you need to know about a product that contains a natural complex of soy and rice bran peptides proven to reduce puffiness and dark circles. Unlike other formulas that use long-chain amino acids, **Cosmesis Under Eye Refining Serum** features smaller peptides that can more effectively penetrate the skin to help reduce blood clotting and improve circulation. By increasing blood supply, the soy and rice bran peptides in **Cosmesis Under Eye Refining Serum** help clear away discoloration and strengthen your weakened capillaries. These soy and rice bran peptides also fight free radical damage, reduce swelling, and block the enzymes that destroy collagen and elastin. This special formula also includes oxidoreductases and other natural antioxidants, making it one of the most effective products ever created for treating this very common problem.

The retail price for a ½ oz bottle of **Cosmesis Under Eye Refining Serum** is \$69.95. If a member buys two bottles, the price is reduced to just \$46.17.



Item # 80113

Neck Aging Sagging, Loose, Mottled Skin

While there are many skin care products on the market today designed to help maintain a youthful complexion, there are very few that help you reverse and prevent the unsightly tell-tale signs of aging that occur in the neck area.

The skin of your neck is extremely thin and constantly exposed to harsh environmental stressors like UV radiation and other factors that break down your healthy collagen fibers. This damage results in the eventual collapse of your skin's supporting structure, causing your skin to wrinkle and sag. Cosmetics and surgical procedures are only minimally effective in correcting this problem, but **Cosmesis Neck Rejuvenating Anti-Oxidant Cream** contains advanced topical nutrients that are scientifically proven to work.

One of these is **Acetyl hexapeptide-3**. This patented amino peptide absorbs easily into your skin to help block the chemical signals that control muscle contraction, an underlying cause of wrinkle formation. Acetyl hexapeptide-3 also softens the look of vertical muscle banding that is so often seen in aging necks, and helps minimize visible folds and creases as well. In one study, a **10% concentration of acetyl hexapeptide-3 was actually proven to reduce wrinkle depth by up to 30% in just 30 days.**¹

Also after the age of 40, your skin is less able to repair the damage caused by sun exposure, like the unsightly mottled areas of hyperpigmentation that often occur on the neck. Two powerful skin-lightening agents found in **Cosmesis Neck Rejuvenating Anti-Oxidant Cream** work together to even the tone and improve the health of aging neck skin. **Niacinamide**, a water-soluble form of vitamin B3, works by interfering with the transfer of melanin to your skin cells.² **N-acetyl glucosamine**, a more stable form of glucosamine, slows the activity of an enzyme involved in the overproduction of melanin.³ Together these topical nutrients are scientifically proven to reduce the yellowing, blotchiness, and hyperpigmentation of sun-damaged skin⁴ and, when combined with wrinkle-reducing **acetyl hexapeptide-3**, make **Cosmesis Neck Rejuvenating Anti-Oxidant Cream** the ideal solution to the problem of an aging neck.

The retail price for a 2 oz jar of **Cosmesis Neck Rejuvenating Anti-Oxidant Cream** is \$59. If a member buys two jars, the price is reduced to just \$39.75.



Item # 80122

Wrinkles and Premature Aging

Inevitably, the first signs of premature aging appear as fine lines and wrinkles. These most commonly appear at the corners of your eyes, cheeks, and mouth. Until recently the most effective anti-wrinkle creams combined firming and tightening ingredients with light reflective particles to mask the perception of lines or contained fillers that filled in wrinkles and added a protective top layer to give the illusion of a smoother surface. Now a revolutionary new **Cosmesis Skin Stem Cell Serum** contains a rare plant extract that has been scientifically proven to effectively reduce wrinkles and reverse the signs of aging.

In order to understand how this new technology works you need to know that your skin has two basic kinds of cells: (1) parent or stem cells that represent about 2-7% of your cell population and (2) their rapidly dividing offspring that supply new skin cells to replace those that are lost or dying. Unfortunately, these new cells come with a built-in operational limit after which they lose their ability to divide and must be replaced. This is where your stem cells come in. However, the slow self-renewal process of your stem cells creates a problem. Eventually, your stem cell population becomes depleted to the point where it can't produce enough replacement cells and your skin's health and appearance begin to decline.

However, scientists recently discovered that the long-living stem cells of a rare Swiss apple called **Uttwiler Spätlauber**, were capable of stimulating the proliferation of human stem cells by an astounding 80%!⁵ This plant extract preserves and protects vital stem cells to help fight aging at its source! In another human study, a special cream containing a 2% Uttwiler Spätlauber extract and lecithin liposomes was applied twice daily to the crow's feet area of 20 participants. After just four weeks their average wrinkle depth was reduced by an amazing 15%.¹⁵

By using this anti-aging technology, the unique formula of **Cosmesis Skin Stem Cell Serum** can revitalize and help preserve the tone, texture, and appearance of your skin in a way never before possible.

The retail price for a 1 oz bottle of **Cosmesis Skin Stem Cell Serum** is \$69. If a member buys two bottles, the price is reduced to just \$48.



Item # 80130

Black & Blue Marks (Bruising) Spider Veins—Inflammation & Swelling

Every square inch of your skin contains roughly 19 yards of blood vessels, many of which are so tiny that only one blood cell can pass through at a time. The effects of aging can weaken these small veins that rupture and allow escaped blood to flow along pathways created by surrounding capillaries. This produces the unsightly purplish blue areas of discoloration that one sees so frequently. Also noticeable are the areas of discoloration and unsightly spider veins appearing on the nose and cheeks. Fortunately, **Cosmesis Healing Formula All-in-One Cream** contains the unique properties of vitamin K1 and extracts of the wildflower *Arnica montana* that provide a clinically proven, natural solution to these common age-related problems.

Vitamin K1 is a fat-soluble vitamin that helps activate the proteins necessary for blood clotting. Because of its fat-soluble nature and vital importance in the blood clotting process, vitamin K1 is an ideal topical treatment for all disorders caused by vascular injury. When applied to skin, vitamin K1 readily penetrates deep into the dermis where it effectively targets damaged capillaries. Vitamin K1 functions naturally to support the blood clotting process and end seepage, eventually permitting your skin tissue to heal itself.

Arnica montana, more commonly known as leopard's bane, is a wildflower and member of the sunflower family that has been used by native American Indians for centuries to relieve bruising and swelling. **Arnica contains a biologically active compound called helinanolin, a proven anti-inflammatory that can reduce swelling by as much as 24% in just 4 weeks.**⁶ Arnica also features an essential oil called thymol that has been clinically shown to cause spontaneous contraction of the smooth muscles in blood vessel walls, thereby enhancing circulation.⁷ This helps break up and transport trapped blood and fluid buildup, making it highly effective at treating bruises and swelling.

When combined with other effective, health-promoting ingredients such as oats and vitamin D, the **Cosmesis Healing Formula All-in-One Cream** offers a unique, multi-targeted approach to the problem of spider veins, unsightly bruising, swelling and inflammation that often accompanies minor injuries to aging skin.

The retail price for a 1 oz jar of **Cosmesis Healing Formula All-In-One Cream** is \$49. If a member buys two jars, the price is reduced to just \$31.50.



Item # 80137

To order any of these **Cosmesis products**, call 1-800-544-4440 or visit www.LifeExtension.com

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

A BIOACTIVE FORM OF FOLATE

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

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

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

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

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

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



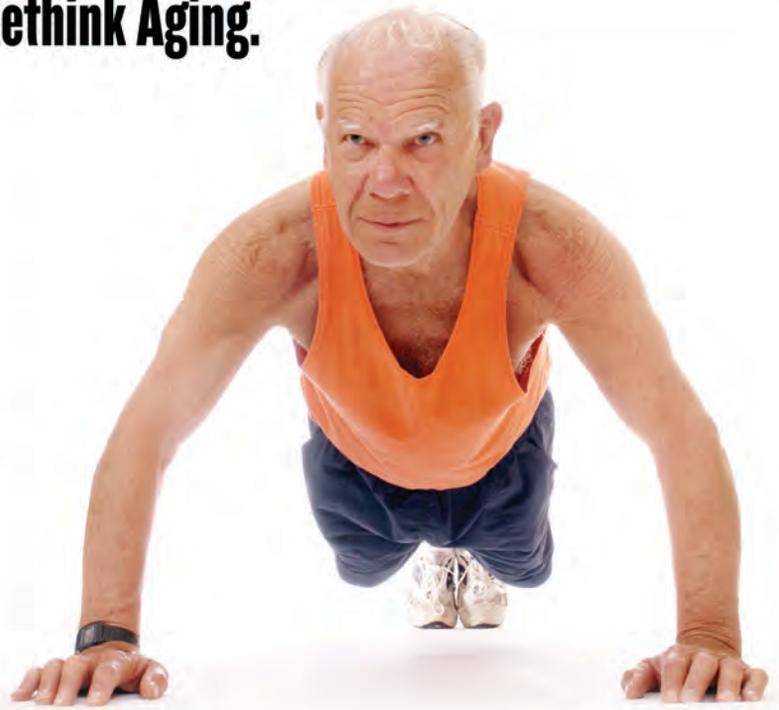
To order Optimized Folate,
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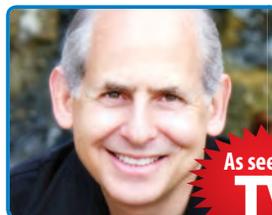
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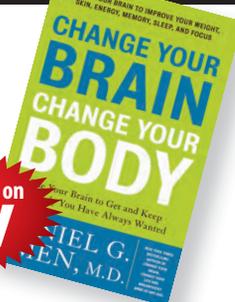


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- What to Do When Your Patients Want to Get Off Prescriptions
- The Gut-Brain Connection
- Alternative Approaches for Cancer Patients
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3. Have your blood drawn.
4. Your blood test results will be 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

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Life Extension Member Pricing

- COMPREHENSIVE PANELS**

○ MALE WEIGHT LOSS PANEL (LCWLM)* \$299
 CBC/Chemistry Profile DHEA-S
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 Progesterone Insulin
 C-Reactive Protein (high sensitivity)
 Free Testosterone Total Testosterone
 Estradiol TSH
 Free T3 Free T4
- MALE LIFE EXTENSION PANEL (LC322582) \$269**
 CBC/Chemistry Profile
 DHEA-S
 PSA (prostate-specific antigen)
 Homocysteine
 C-Reactive Protein (high-sensitivity)
 Free Testosterone Total Testosterone
 Estradiol
 TSH for thyroid function
- 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
 C-Reactive Protein (high-sensitivity)
 Progesterone
 Free Testosterone
 Total Testosterone
 TSH for thyroid function
- FEMALE HORMONE ADD-ON PANEL (LCADD)* \$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.
- OMEGA SCORE™** (LCOMEGA) \$99 LIMITED TIME OFFER**
 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.
- MALE HORMONE RE-TEST PROFILE (LCRTM)* \$275**
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- FEMALE HORMONE RE-TEST PROFILE (LCRTF)* \$250**
 CBC/Chemistry Profile, DHEA-S, Total Estrogen, Pregnenolone, Total and Free Testosterone, Progesterone, and TSH. Continual monitoring of hormone levels is necessary for women seeking to maintain optimal blood level values.
- THE CBC/CHEMISTRY PROFILE (LC381822) \$35**
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 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 (250H) (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 NEW LOW PRICE**
 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.

* 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.



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Life Extension Member Pricing

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|--|----------------|--|---|
| <input type="radio"/> HORMONES
CORTISOL (LC004051)
This test is to measure adrenal function. | \$39 | <input type="radio"/> CARDIAC RISK
Lp-PLA2 (PLAC TEST)* (LC141275)
This test is used to aid in predicting risk for coronary heart disease, and ischemic stroke associated with atherosclerosis. Lp-PLA2 is a cardiovascular risk factor that provides unique information about the stability of the plaque inside your arteries. | \$125 |
| <input type="radio"/> ADRENOCORTICOTROPIC HORMONE (ACTH)* (LC004440)
A pituitary function test useful in evaluating adrenocortical dysfunction. | \$91.50 | <input type="radio"/> C-REACTIVE PROTEIN (HIGH-SENSITIVITY) (LC120766)
Measures inflammation factors in arteries. Recent studies indicate that C-reactive protein may be the most accurate risk factor for predicting heart attack and stroke. | \$42 |
| <input type="radio"/> DHEA-SULFATE (LC004697)
This test shows if you are taking the proper amount of DHEA. This test normally costs \$100 or more at commercial laboratories. | \$61 | <input type="radio"/> APOLIPOPROTEIN ASSESSMENT (APO A1 + APO B + RATIO) (LC216010)
This ratio correlates with risk of coronary artery disease and is useful in the presence of borderline elevations of cholesterol. | \$55 |
| <input type="radio"/> DIHYDROTESTOSTERONE (DHT)* (LC500142)
Measures serum concentrations of DHT. | \$99 | <input type="radio"/> FIBRINOGEN* (LC001610)
High levels of this blood-clotting factor increase the risk of heart attack and stroke. | \$31 |
| <input type="radio"/> ESTRADIOL (LC004515)
For men and women. Determines the proper amount in the body. | \$33 | <input type="radio"/> HOMOCYSTEINE (LC706994)
Can indicate if you are likely to have a heart attack or stroke. Even if you take folic acid, you still may have dangerously high levels of this artery-clotting metabolic debris that can be lowered with high doses of TMG and vitamin B6. | \$64 |
| <input type="radio"/> INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN 3 (IGFBP3) (LC140152)
Elevated levels in hypertensive individuals have been associated with a nine-fold increase of carotid arteriosclerosis. | \$47 | <input type="radio"/> VAP™ TEST (LC804500)
The VAP cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. Direct measurements, not estimations, are provided for total cholesterol, LDL, HDL, VLDL, and cholesterol subclasses. | \$90 |
| <input type="radio"/> INSULIN FASTING* (LC004333)
Can predict those at risk of diabetes, obesity, and heart and other diseases. | \$42 | <input type="radio"/> COQ10* (COENZYME Q10) (LC120251)
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. | \$75
<small>LIMITED TIME OFFER!</small> |
| <input type="radio"/> PREGNENOLONE* (LC140707)
Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome. | \$116 | <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"/> PROGESTERONE (LC004317)
Primarily for women. Determines the proper amount in the body. | \$55 | <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"/> 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"/> 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"/> 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"/> 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"/> 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®
SlimStyles® PGX
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
Cho-Less
D-Ribose Capsules
D-Ribose Powder
Endothelial Defense™ with
Full-Spectrum Pomegranate™
Fibrinogen Resist
Forskolin
Homocysteine Resist
Low Dose Aspirin (Enteric Coated)
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
Grapeseed Extract with Resveratrol &
Pterostilbene
Huperzine A with Natural Vitamin E
Kyolic® Garlic Formula 105
Kyolic® Reserve
Lycopene
Mega Green Tea Extract
Mega Green Tea Extract (Decaffeinated)
Mega Lycopene
Mega Silymarin with Isosilybin B
Nutrim
Optimized Ashwagandha Extract
Pomegranate Extract
(Full-Spectrum) Pomegranate™
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
5-LOXIN®
Mega EPA/DHA
Mega GLA with Sesame Lignans
MSM
Natural Relief 1222™ Cream
PhosphOmega™ Krill Oil
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
HepatoPro
Mega Silymarin with Isosilybin B
N-Acetyl Cysteine
SAME
Silymarin

MINERALS

Biosil
Bone Restore
Bone Strength Formula w/KoAct™
Bone-Up™

Boron Capsules
 Calcium Citrate with D3
 Chromium Ultra
 Copper
 Dr. Strum's Intensive Bone Formula
 Iodoral
 Iron Protein Plus
 Magnesium
 Magnesium Citrate
 Mineral Formula for Men
 Mineral Formula for Women
 Only Trace Minerals
 Optimized Chromium w/Crominex® 3+
 OptiZinc
 Sea-Iodine™
 Selenium
 Se-Methylselenocysteine
 Strontium
 Vanadyl Sulfate
 Zinc/Vitamin C Lozenges

MISCELLANEOUS

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

MITOCHONDRIAL SUPPORT

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

MOOD RELIEF

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

MOUTH CARE

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

MULTIVITAMIN

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

PET CARE

Life Extension Cat Mix
 Life Extension Dog Mix

PROSTATE & URINARY HEALTH

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

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
 Derma Whey
 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®
 Lavilin Underarm Deodorant
 Life Extension Sun Protection Spray
 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
 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 Power Powder
 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 Versicolor Super Strength
 CR Mimetic Longevity Formula
 Derma-Vits™
 Cinsulin® w/InSea™
 and Crominex® 3+
 EDTA
 (European Leg Solution) Diosmin 95
 Fem Dophilus
 Femmenessence MacaPause®
 GlucoFit™
 Ideal Bowel Support 299V

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

SPORTS PERFORMANCE

Enhanced Life Extension Protein
 DMG (N, N-dimethylglycine)
 Inosine
 L-Glutamine Capsules
 L-Glutamine Powder
 Micronized Creatine Capsules
 Micronized Creatine 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
 (Interplexus) 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®
 Life Mix
 Natural Appetite Control
 Natural Glucose Absorption Control
 SlimStyles® PGX Natural Weight Loss
 Stevia Liquid Extract
 Super CLA Blend w/Guarana and Sesame Lignans
 Super CLA Blend w/Sesame Lignans
 Udo's Choice Wholesome Fast Food Blend
 WellBetX PGX® Soluble Fiber Blend

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
A					
00449	ACETYL-L-CARNITINE - 500 mg, 100 caps	\$56.00	\$42.00		
	ACETYL-L-CARNITINE - 4 bottles of 100 caps	186.64	139.98		
00788	ACETYL-L-CARNITINE ARGINATE - 100 caps	59.00	44.25		
	ACETYL-L-CARNITINE ARGINATE - 4 bottles of 100 caps	203.96	152.97		
01308	ADVANCED LIPID CONTROL - 60 veg. caps	30.00	22.50		
	ADVANCED LIPID CONTROL - 4 bottles of 60 veg. caps	108.00	81.00		
01300	ADVANCED ORAL HYGIENE - 60 veg. mint lozenges	20.00	15.00		
	ADVANCED ORAL HYGIENE - 4 bottles of 60 veg. mint lozenges	72.00	54.00		
01417	AGAVE DIGESTIVE-IMMUNE SUPPORT - 360 grams of powder	30.00	22.50		
	AGAVE DIGESTIVE-IMMUNE SUPPORT - 4 bottles of powder	108.00	81.00		
00681	AHCC - 500 mg, 30 caps	48.98	36.74		
	AHCC - 4 bottles of 30 caps	174.20	130.65		
46925	ALLI® REFILL PACK - 60 mg, 120 caps	69.95	58.00		
00457	(SUPER) ALPHA-LIPOIC ACID w/BIOTIN - 250 mg, 60 caps	37.00	27.75		
	(SUPER) ALPHA-LIPOIC ACID w/BIOTIN - 4 bottles of 60 caps	128.00	96.00		
01440	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 100 caps	26.00	19.50		
	ANTI-ALCOHOL ANTIOXIDANTS w/HEPATOPRO - 4 bottles of 100 caps	92.00	69.00		
00105	APPLE PECTIN POWDER - 227 grams of powder	14.75	11.06		
	APPLE PECTIN POWDER - 4 bottles of powder	55.00	41.25		
01012	ARGININE CAPS - 800 mg, 200 caps	26.50	19.88		
	ARGININE CAPS - 4 bottles of 200 caps	93.00	69.75		
01039	ARGININE/ORNITHINE CAPS - 500/250 mg, 100 caps	16.00	12.00		
	ARGININE/ORNITHINE CAPS - 4 bottles of 100 caps	58.00	43.50		
00038	ARGININE/ORNITHINE POWDER - 150 grams of powder	22.95	17.21		
	ARGININE/ORNITHINE POWDER - 4 bottles of powder	76.00	57.00		
01025	(L)-ARGININE FREE-FORM POWDER - 100 grams of powder	15.98	11.99		
	(L)-ARGININE FREE-FORM POWDER - 4 bottles of powder	57.24	42.93		
01303	ARTHRONAX™ w/THEAFLAVINS - 120 veg. caps	44.00	33.00		
	ARTHRONAX™ w/THEAFLAVINS - 4 bottles of 120 veg. caps	160.00	120.00		
01404	ARTHRONAX™ w/THEAFLAVINS - 60 veg. caps	30.00	22.50		
	ARTHRONAX™ w/THEAFLAVINS - 4 bottles of 60 veg. caps	104.00	78.00		
00919	ARTICHOKE LEAF EXTRACT - 500 mg, 180 veg. caps	28.00	21.00		
	ARTICHOKE LEAF EXTRACT - 4 bottles of 180 veg. caps	101.52	76.14		
00086	(SUPER) ASCORBATE C POWDER - 8 oz of powder	26.99	20.24		
	(SUPER) ASCORBATE C POWDER - 4 bottles of powder	99.48	74.61		
00080	ASCORBIC ACID POWDER - 16 oz of powder vitamin C	38.00	28.50		
	ASCORBIC ACID POWDER - 4 bottles of powder vitamin C	139.72	104.79		
00082	ASCORBYL PALMITATE CAPSULES - 500 mg, 100 caps	22.50	16.88		
	ASCORBYL PALMITATE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
00888	(OPTIMIZED) ASHWAGANDHA EXTRACT - 60 veg. caps	10.00	7.50		
	(OPTIMIZED) ASHWAGANDHA EXTRACT - 4 bottles of 60 veg. caps	36.00	27.00		
01066	(LOW DOSE) ASPIRIN ENTERIC COATED - 81 mg, 300 tablets	6.00	4.50		
	(LOW DOSE) ASPIRIN ENTERIC COATED - 4 bottles of 300 tablets	21.32	16.00		
00708	ASTAXANTHIN - 2 mg, 30 softgels	10.25	7.69		

* These products are not 25% off retail price.

SUB-TOTAL OF COLUMN 1

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

SUB-TOTAL OF COLUMN 2

No.		Retail	Member Price	Qty	Total
00999	BREAST HEALTH FORMULA - 60 veg. caps	\$34.00	\$25.50		
	BREAST HEALTH FORMULA - 4 bottles of 60 veg. caps	120.00	90.00		
00893	BRITE EYES III - 2 vials, 5 ml each	34.00	25.50		
	BRITE EYES III - 4 boxes	128.00	96.00		
00136	BROMELAIN POWDER - 100 grams of powder	21.00	15.75		
	BROMELAIN POWDER - 4 bottles of powder	75.00	56.25		
01203	(SPECIALLY COATED) BROMELAIN - 500 mg, 60 enteric coated tablets	21.00	15.75		
	(SPECIALLY COATED) BROMELAIN - 4 bottles of 60 tablets	76.00	57.00		
00884	BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID - 60 softgels	44.00	33.00		
	BUTTERBUR EXT. W/ STANDARDIZED ROSMARINIC ACID - 4 bottles of 60 softgels	158.40	118.80		
C					
01015	CALCIUM CITRATE - 300 caps	\$24.00	\$18.00		
	CALCIUM CITRATE - 4 bottles of 300 caps	85.00	63.75		
00535	CALCIUM D-GLUCARATE - 200 mg, 60 caps	18.00	13.50		
	CALCIUM D-GLUCARATE - 4 bottles of 60 caps	60.00	45.00		
01493	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 402 grams powder	56.00	42.00		
	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 4 bottles of 402 grams powder	192.00	144.00		
	CALORIE CONTROL WEIGHT MANAGEMENT FORMULA BLUEBERRY-POMEGRANATE FLAVOR - 8 bottles of 402 grams powder	352.00	264.00		
00118	CAPSULE FILLER MACHINE FOR "00" CAPSULES	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "00" CAPSULES - 4 machines	45.00	33.75		
00613	CAPSULE FILLER MACHINE FOR "0" CAPSULES	12.00	9.00		
	CAPSULE FILLER MACHINE FOR "0" CAPSULES - 4 machines	45.00	33.75		
00916	(OPTIMIZED) CARNITINE w/GLYCOCARN® - 60 veg. caps	29.00	21.75		
	(OPTIMIZED) CARNITINE w/GLYCOCARN® - 4 bottles of 60 veg. caps	104.40	78.30		
01041	L-CARNITINE CAPSULES - 500 mg, 30 caps	15.00	11.25		
	L-CARNITINE CAPSULES - 4 bottles of 30 caps	52.80	39.60		
01258	CARNOSOOTHE w/PICROPROTECT™ - 60 veg. caps	29.95	22.46		
	CARNOSOOTHE w/PICROPROTECT™ - 4 bottles of 60 veg. caps	108.00	81.00		
01287	(SUPER) CARNOSINE CAPS - 500 mg, 90 caps	66.00	49.50		
	(SUPER) CARNOSINE CAPS - 4 bottles of 90 caps	240.00	180.00		
01011	CELLULITE SUPPRESS™ FORMULA - 6 fl. oz	58.00	43.50		
	CELLULITE SUPPRESS™ FORMULA - 4-6oz bottles	208.00	156.00		
00390	CDP CHOLINE CAPS - 250 mg, 60 caps	36.00	27.00		
	CDP CHOLINE CAPS - 4 bottles of 60 caps	136.00	102.00		
00998	CELL SENSOR-EMF DETECTION/MEASUREMENT METER	39.95	29.95		
01370	CHILDREN'S FORMULA MIX - 100 chewable tablets	18.00	13.50		
	CHILDREN'S FORMULA MIX - 4 bottles of 100 chewable tablets	64.00	48.00		
00550	CHLORELLA - 500 mg, 200 tablets	23.50	17.63		
	CHLORELLA - 4 bottles of 200 tablets	84.00	63.00		
01548	CHLOROPHYLLIN w/ZINC - 100 softgels	24.00	18.00		
	CHLOROPHYLLIN w/ZINC - 4 bottles of 100 softgels	80.00	60.00		
*01359	CHO-LESS - 90 capsules	32.50	24.38		
00541	CHOLINE CHLORIDE - 16 oz liquid	14.95	11.21		
	CHOLINE CHLORIDE - 4 bottles of 16 oz liquid	56.00	42.00		
00364	CHONDROITIN SULFATE CONCENTRATE - 400 mg, 60 tablets	19.95	14.96		
	CHONDROITIN SULFATE CONCENTRATE - 4 bottles of 60 tablets	72.00	54.00		
01218	CHROMIUM ULTRA - 100 veg. caps	24.00	18.00		
	CHROMIUM ULTRA - 4 bottles of 100 veg. caps	84.00	63.00		
01504	(OPTIMIZED) CHROMIUM W/CROMINEX® 3+- 500 mcg, 60 veg. caps	9.00	6.75		
	(OPTIMIZED) CHROMIUM W/CROMINEX® 3+- 4 bottles of 60 veg. caps	32.00	24.00		
00551	CILANTRO HERBAL EXTRACT - 1 oz	12.00	9.00		
	CILANTRO HERBAL EXTRACT - 4 bottles of 1oz	44.00	33.00		

* Not for sale to wholesalers or retail stores.

SUB-TOTAL OF COLUMN 3

No.		Retail	Member Price	Qty	Total
01503	CINSULIN® w/INSEA™ AND CROMINEX® 3+- 90 veg. caps	\$38.00	\$28.50		
	CINSULIN® w/INSEA™ AND CROMINEX® 3+- 4 bottles of 90 veg. caps	136.00	102.00		
00069	CITRUS BIOFLAVONOID - 100 caps	15.99	11.99		
	CITRUS BIOFLAVONOID - 4 bottles of 100 caps	59.28	44.46		
00818	(SUPER) CLA BLEND w/SESAME LIGNANS - 1000 mg, 120 softgels	36.00	27.00		
	(SUPER) CLA BLEND w/SESAME LIGNANS - 4 bottles of 120 softgels	132.00	99.00		
	(SUPER) CLA BLEND w/SESAME LIGNANS - 10 bottles, 120 softgels	263.30	197.48		
00819	(SUPER) CLA BLEND w/GUARANA & SESAME - 120 softgels	42.00	31.50		
	(SUPER) CLA BLEND w/GUARANA & SESAME - 4 btls of 120 softgels	153.32	114.99		
00050	COD LIVER OIL - 12 fl oz (355 ml) (Emulsified)	14.58	10.94		
	COD LIVER OIL - 4 bottles of 12 fl oz (355 ml)	49.08	36.81		
00293	COD LIVER OIL - 100 softgels (Emulsified)	9.95	7.46		
	COD LIVER OIL - 4 bottles of 100 softgels	37.52	28.14		
00922	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 90 softgels	74.00	55.50		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 4 btls of 90 softgels	266.40	199.80		
	COGNITEX w/PREGNENOLONE & NEUROPROTECTION COMPLEX - 12 btls of 90 softgels	768.00	576.00		
00921	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 90 softgels	72.00	54.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 4 bottles of 90 softgels	256.00	192.00		
	COGNITEX w/o PREGNENOLONE w/NEUROPROTECTION COMPLEX - 12 bottles of 90 softgels	744.00	558.00		
01421	COGNITEX BASICS - 60 softgels	38.00	28.50		
	COGNITEX BASICS - 4 bottles of 60 softgels	140.00	105.00		
00110	COMPLETE B-COMPLEX - 180 caps	21.50	16.13		
	COMPLETE B-COMPLEX - 4 bottles of 180 caps	72.00	54.00		
01374	COMPREHENSIVE NUTRIENT PACK - 30-day supply	189.00	141.75		
	COMPREHENSIVE NUTRIENT PACK - 120-day supply	684.00	513.00		
00119	COPPER CAPSULES - 2 mg, 100 caps	8.95	6.71		
	COPPER CAPSULES - 4 bottles of 100 caps	32.36	24.27		
00949	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 50 mg, 60 softgels	25.00	18.75		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 4 bottles of 60 softgels	88.00	66.00		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 10 bottles of 60 softgels	200.00	150.00		
00950	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 100 mg, 100 softgels	66.00	49.50		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 4 bottles of 100 softgels	240.00	180.00		
	(SUPER ABSORBABLE) COQ10™ w/ d-LIMONENE - 10 bottles of 100 softgels	560.00	420.00		
01226	(SUPER UBIQUINOL) COQ10 - 100 mg, 60 softgels	56.00	42.00		
	(SUPER UBIQUINOL) COQ10 - 4 bot of 60 softgels	208.00	156.00		
	(SUPER UBIQUINOL) COQ10 - 10 bot of 60 softgels	480.00	360.00		
01426	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 100 mg, 60 softgels	62.00	46.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 4 bot of 60 softgels	224.00	168.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 10 bot of 60 softgels	520.00	390.00		
01425	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 50 mg, 100 softgels	58.00	43.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 4 bot of 100 softgels	212.00	159.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 10 bot of 100 softgels	500.00	375.00		
01427	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 50 mg, 30 softgels	20.00	15.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 4 bot of 30 softgels	72.00	54.00		
01431	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 200 mg, 30 softgels	62.00	46.50		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 4 bot of 30 softgels	224.00	168.00		
	(SUPER UBIQUINOL) COQ10 w/ENH MITOCHONDRIAL SUPPORT™ - 10 bot of 30 softgels	520.00	390.00		
01053	CORIOLUS VERSICOLOR SUPER STRENGTH - 600 mg, 150 veg. caps	99.95	74.96		
00857	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 30 packets	25.00	18.75		
	COROMEGA CHILD BRAIN & BODY - (Lemon Lime) 4 boxes of 30 packets	90.00	67.00		

SUB-TOTAL OF COLUMN 4

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
C CONTINUED					
80118	COSMESIS ANTI-AGING MASK - 2 oz bottle	\$66.60	\$49.95		
	COSMESIS ANTI-AGING MASK - 2-2 oz bottles	117.22	87.92		
80134	COSMESIS ANTI-GLYCATION SERUM - 1 oz bottle w/BLUEBERRY & POMEGRANATE EXTRACTS	24.00	18.00		
	COSMESIS ANTI-GLYCATION SERUM - 2-1 oz bottles w/BLUEBERRY & POMEGRANATE EXTRACTS	45.60	34.20		
80133	COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz bottle	29.95	22.46		
	COSMESIS ANTIOXIDANT FACIAL MIST - 2-2 oz bottles	56.90	42.68		
80127	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz jar	39.95	29.96		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2-2 oz jar	76.00	57.00		
80128	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2-2 oz jar	93.20	69.90		
80117	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz jar	59.00	44.25		
	COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2-2 oz jars	106.00	79.50		
80121	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz jar	52.95	39.71		
	COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2-2 oz jars	93.20	69.90		
80105	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 1 oz	69.95	52.46		
	COSMESIS ANTI-REDNESS & BLEMISH LOTION - 2-1 oz bottles	123.12	92.34		
80120	COSMESIS CORRECTIVE CLEARING MASK - 2 oz jar	59.95	44.96		
	COSMESIS CORRECTIVE CLEARING MASK - 2-2 oz jars	105.52	79.14		
80108	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz	71.60	53.70		
	COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 2-1 oz bottles	126.00	94.50		
80123	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	65.00	48.75		
	COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	114.40	85.80		
80107	COSMESIS FINE LINE-LESS - 1 oz	69.95	52.46		
	COSMESIS FINE LINE-LESS - 2-1 oz bottles	123.12	92.34		
80131	COSMESIS HAIR SUPPRESS FORMULA - 4 oz bottle	53.75	40.31		
	COSMESIS HAIR SUPPRESS FORMULA - 2- 4 oz bottles	94.60	70.95		
80137	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 oz jar	49.00	36.75		
	COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 2-1 oz jars	84.00	63.00		
80115	COSMESIS HEALING MASK - 2 oz bottle	59.95	44.96		
	COSMESIS HEALING MASK - 2-2 oz bottles	105.52	79.14		
80109	COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC FACIAL MOISTURIZER - 2 bottles of 1 oz	93.20	69.90		
80110	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz	52.95	39.71		
	COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 2 blts of 1 oz	93.20	69.90		
80138	COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 4 oz bottle	39.95	29.96		
	COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 2 bottles of 4 oz	76.00	57.00		
80103	COSMESIS LIFTING & TIGHTENING COMPLEX - 1 oz	69.95	52.46		
	COSMESIS LIFTING & TIGHTENING COMPLEX - 2 bottles of 1 oz	123.12	92.34		
80135	COSMESIS MELATONIN CREAM - 1 oz jar	28.00	21.00		
	COSMESIS MELATONIN CREAM - 2 - 1 oz jars	46.00	34.50		
80114	COSMESIS MILD FACIAL CLEANSER - 8 oz	52.95	39.71		
	COSMESIS MILD FACIAL CLEANSER - 2 bottles of 8 oz	93.20	69.90		
80122	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2 oz jar	59.00	44.25		
	COSMESIS NECK REJUVENATING ANTIOXIDANT CREAM - 2-2 oz jars	106.00	79.50		
80119	COSMESIS PEEL OFF CLEANSING MASK - 2 oz bottle	59.95	44.96		
	COSMESIS PEEL OFF CLEANSING MASK - 2-2 oz bottles	105.52	79.14		
80111	COSMESIS PIGMENT CORRECTING CREAM - 1/2 oz	69.95	52.46		
	COSMESIS PIGMENT CORRECTING CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80106	COSMESIS REJUVENATING SERUM - 1 oz	69.95	52.46		
	COSMESIS REJUVENATING SERUM - 2 bottles of 1 oz	123.12	92.34		
80112	COSMESIS SKIN LIGHTENING SERUM - 1/2 oz	79.95	59.96		
	COSMESIS SKIN LIGHTENING SERUM - 2 bottles of 1/2 oz	140.72	105.54		

SUB-TOTAL OF COLUMN 5

DECEMBER 2010

No.		Retail	Member Price	Qty	Total
80130	COSMESIS SKIN STEM CELL SERUM - 1 oz	\$69.00	\$51.75		
	COSMESIS SKIN STEM CELL SERUM - 2 bottles of 1 oz	128.00	96.00		
80116	COSMESIS ULTRA LIP PLUMPER - 1/3 oz	59.95	44.96		
	COSMESIS ULTRA LIP PLUMPER - 2 bottles of 1/3 oz	105.52	79.14		
80101	COSMESIS ULTRA WRINKLE RELAXER - 1 oz	89.95	67.46		
	COSMESIS ULTRA WRINKLE RELAXER - 2 bottles of 1 oz	159.52	119.64		
80113	COSMESIS UNDER EYE REFINING SERUM - 1/2 oz	69.95	52.46		
	COSMESIS UNDER EYE REFINING SERUM - 2 bottles of 1/2 oz	123.12	92.34		
80104	COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz	69.95	52.46		
	COSMESIS UNDER EYE RESCUE CREAM - 2 bottles of 1/2 oz	123.12	92.34		
80129	COSMESIS VITAMIN C SERUM - 1 oz	79.95	59.96		
	COSMESIS VITAMIN C SERUM - 2 bottles of 1 oz	140.72	105.54		
80136	COSMESIS VITAMIN D LOTION - 4 oz	29.95	22.46		
	COSMESIS VITAMIN D LOTION - 2 bottles of 4 oz	56.00	42.00		
80102	COSMESIS VITAMIN K HEALING CREAM - 1 oz	74.95	56.21		
	COSMESIS VITAMIN K HEALING CREAM - 2 bottles of 1 oz	131.92	98.94		
00862	CRAN-MAX® - 500 mg, 60 veg. caps	17.50	13.13		
	CRAN-MAX® - 4 bottles of 60 veg. caps	60.00	45.00		
01424	(OPTIMIZED) CRAN-MAX® with UTIROSE™ - 60 veg. caps	18.00	13.50		
	(OPTIMIZED) CRAN-MAX® with UTIROSE™ - 4 bottles of 60 veg. caps	64.00	48.00		
00609	CREATINE CAPS MICRONIZED - 120 caps	10.95	8.21		
	CREATINE CAPS MICRONIZED - 4 bottles of 120 caps	37.00	27.75		
00610	CREATINE POWDER MICRONIZED - 500 grams of powder	29.00	21.75		
	CREATINE POWDER MICRONIZED - 4 bottles of powder	106.52	79.89		
01096	CREATINE-WHEY-GLUTAMINE POWDER - 1 kg vanilla	45.00	33.75		
	CREATINE-WHEY-GLUTAMINE POWDER - 4 bottles of powder	168.00	126.00		
01089	CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch	11.95	8.96		
	CRUCIFEROUS VEGETABLE SOUP - 6 - 32 oz. pouch	67.50	50.63		
01090	(ASIAN) CRUCIFEROUS VEGETABLE SOUP - 32 oz. pouch	11.95	8.96		
	(ASIAN) CRUCIFEROUS VEGETABLE SOUP - 6 - 32 oz. pouch	67.50	50.63		
01429	CR MIMETIC LONGEVITY FORMULA - 60 veg. caps	39.00	29.25		
	CR MIMETIC LONGEVITY FORMULA - 4 bottles of 60 veg. caps	144.00	108.00		
*CRWAY	(NUTRIBASE) CRWAY EDITION ADVANCED DIETARY SOFTWARE	195.00	195.00		
00912	(SUPER) CURCUMIN W/BIOPERINE® - 800 mg, 60 caps	26.00	19.50		
	(SUPER) CURCUMIN W/BIOPERINE® - 4 bottles of 60 caps	96.00	72.00		
00407	(SUPER BIO) CURCUMIN® - 400 mg, 60 veg. caps	35.00	26.25		
	(SUPER BIO) CURCUMIN® - 4 bottles of 60 veg. caps	128.00	96.00		
00064	(L) CYSTEINE CAPSULES - 500 mg, 60 caps	18.95	14.21		
	(L) CYSTEINE CAPSULES - 4 bottles of 60 caps	65.24	48.93		
D					
01063	DERMA-VITS™ - 90 caps	\$14.99	\$11.24		
01313	DERMA WHEY - 400 mg, 60 caps	65.00	48.75		
	DERMA WHEY - 4 bottles of 60 caps	236.00	177.00		
00856	(BARLEAN'S KID'S) DHA (Fruit Punch Flavor) - 8 fl. oz	22.00	16.50		
	(BARLEAN'S KID'S) DHA (Fruit Punch Flavor) - 4 bottles of 8 fl. oz	80.00	60.00		
00995	DHA 240 - 240 mg, 60 softgels	19.00	14.25		
	DHA 240 - 4 bottles of 60 softgels	68.00	51.00		
00658	7-KETO® DHEA METABOLITE - 25 mg, 100 caps	28.00	21.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 100 caps	96.00	72.00		
01271	7-KETO® DHEA METABOLITE - 100 mg, 60 veg. caps	40.00	30.00		
	7-KETO® DHEA METABOLITE - 4 bottles of 60 veg. caps	144.00	108.00		
00607	DHEA - 25 mg dissolve in mouth 100 tablets	14.00	10.50		
	DHEA - 4 bottles of 100 tablets	47.00	35.25		

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

SUB-TOTAL OF COLUMN 6

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

No.		Retail	Member Price	Qty	Total
01250	DHEA COMPLETE - 60 veg. caps	\$48.00	\$36.00		
	DHEA COMPLETE - 4 bottles of 60 veg. caps	172.80	129.60		
00335	DHEA - 25 mg, 100 caps	15.00	11.25		
	DHEA - 4 bottles of 100 caps	50.00	37.50		
00454	DHEA - 15 mg, 100 caps	12.00	9.00		
	DHEA - 4 bottles of 100 caps	40.00	30.00		
00882	DHEA - 50 mg, 60 caps	16.00	12.00		
	DHEA - 4 bottles of 60 caps	56.00	42.00		
00883	DHEA - 100 mg, 60 caps	22.50	16.88		
	DHEA - 4 bottles of 60 caps	76.00	57.00		
01358	DIGEST RC - 30 tablets	19.95	14.96		
	DIGEST RC - 4 boxes of 30 tablets	68.00	51.00		
01272	(ENHANCED SUPER) DIGESTIVE ENZYMES - 100 veg. caps	18.95	14.21		
	(ENHANCED SUPER) DIGESTIVE ENZYMES - 4 bottles of 100 veg. caps	64.00	48.00		
01273	(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS - 100 veg. caps	24.00	18.00		
	(ENHANCED SUPER) DIGESTIVE ENZYMES w/PROBIOTICS - 4 bottles of 100 veg. caps	88.00	66.00		
*01042	(EUROPEAN LEG SOLUTION) DIOSMIN95 - 600 mg, 30 veg. tabs	20.00	15.00		
	(EUROPEAN LEG SOLUTION) DIOSMIN95 - 4 bottles of 30 veg. tabs	72.00	54.00		
00034	D,L-PHENYLALANINE CAPSULES - 500 mg, 100 caps	18.75	14.06		
	D,L-PHENYLALANINE CAPSULES - 4 bottles of 100 caps	64.00	48.00		
00257	DMAE BITARTRATE - 150 mg, 200 caps	14.00	10.50		
	DMAE BITARTRATE - 4 bottles of 200 caps	42.00	31.50		
00197	DMAE-GINKGO CAPSULES - 100 caps	36.00	27.00		
	DMAE-GINKGO CAPSULES - 4 bottles of 100 caps	120.00	90.00		
	DMAE-GINKGO CAPSULES - 8 bottles of 100 caps	220.00	165.00		
00059	DMG - 125 mg dimethylglycine, 60 tablets	18.50	13.88		
	DMG - 4 boxes of 60 tablets	68.00	51.00		
01547	DNA PROTECTION FORMULA - 60 veg. caps	30.00	22.50		
	DNA PROTECTION FORMULA - 4 bottles of 60 veg. caps	112.00	84.00		
00321	DR. PROCTOR'S ADVANCED HAIR FORMULA - 2 oz	39.95	29.96		
	DR. PROCTOR'S ADVANCED HAIR FORMULA - 4 bottles	128.00	96.00		
00320	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 8 oz bottle	24.95	18.71		
	DR. PROCTOR'S HAIR FORMULA SHAMPOO - 4 bottles	88.00	66.00		
00376	DR. TUNG'S TONGUE CLEANER	8.45	6.34		
	DR. TUNG'S TONGUE CLEANERS - 4 quantity	32.20	24.15		
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 2.4 net oz jar	39.95	29.96		
	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE - 4 jars of 2.4 net oz	155.80	116.85		
00240	DUAL-C - 90 caps	12.00	9.00		
	DUAL-C - 4 bottles of 90 caps	42.00	31.50		
E					
00388	ECHINACEA - 250 mg, 60 caps	\$14.35	\$10.76		
	ECHINACEA - 4 bottles of 60 caps	50.00	37.50		
01024	EDTA - 500 mg, 100 caps	17.50	13.13		
00048	(EMULSIFIED SUPER TWIN) EPA/DHA - 12 fl. oz.	22.45	16.84		
01498	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 60 softgels	56.00	42.00		
	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ - 4 bottles of 60 softgels	208.00	156.00		
00997	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 60 veg. caps	52.00	39.00		
	ENDOTHELIAL DEFENSE™ w/GLISODIN® - 4 bottles of 60 veg. caps	184.00	138.00		
00625	(MEGA) EPA/DHA - 120 softgels	19.95	14.96		
	(MEGA) EPA/DHA - 4 bottles of 120 softgels	72.00	54.00		
01428	ESSENTIAL FAT-SOLUBLE NUTRIENTS - 30 softgels	28.00	21.00		
	ESSENTIAL FAT-SOLUBLE NUTRIENTS - 4 bottles of 30 softgels	100.00	75.00		
F					
†01054	FACE MASTER® PLATINUM	\$199.00	\$199.00		
00965	FAST-ACTING JOINT FORMULA - 30 caps	39.00	29.25		
	FAST-ACTING JOINT FORMULA - 4 bottles of 30 caps	144.00	108.00		
20053	FEM DOPHILUS® - 30 caps	24.95	18.71		
20055	FEM DOPHILUS® - 60 caps	35.95	26.96		

SUB-TOTAL OF COLUMN 7

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

No.		Retail	Member Price	Qty	Total
01064	FEMMENESSENCE MACAPAUSE® - 120 veg. caps	\$34.99	\$26.24		
*01311	(ENHANCED) FERNBLOCK® w/SENDARA™ - 30 veg. caps	39.00	29.25		
	(ENHANCED) FERNBLOCK® w/SENDARA™ - 4 bottles of 30 veg. caps	140.00	105.00		
00229	FIBER FOOD CAPS - 200 caps	15.00	11.25		
	FIBER FOOD CAPS - 4 bottles of 200 caps	50.00	37.50		
	FIBER FOOD CAPS - 10 bottles of 200 caps	119.00	89.25		
00228	FIBER FOOD - 300 grams of powder	15.00	11.25		
	FIBER FOOD - 4 bottles of powder	50.00	37.50		
	FIBER FOOD - 10 bottles of powder	119.00	89.25		
00718	FIBRINOGEN RESIST FORMULA (NATTOKINASE) - 30 veg. caps	49.00	36.75		
	FIBRINOGEN RESIST FORMULA (NATTOKINASE) - 4 bottles of 30 caps	176.00	132.00		
00873	FLAXSEED POWDER (HI-LIGNAN NUTRI-FLAX) - 16 oz powder	9.95	7.46		
01200	FLORASTOR® - 250 mg, 50 caps	55.15	41.36		
01312	(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE) - 100 veg. caps	28.00	21.00		
	(OPTIMIZED) FOLATE (5-METHYLTETRAHYDROFOLATE) - 4 bottles of 100 veg. caps	100.00	75.00		
00347	FOLIC ACID + B12 CAPSULES - 200 caps	10.50	7.88		
	FOLIC ACID + B12 CAPSULES - 4 bottles of 200 caps	38.00	28.50		
00300	FORSKOLIN - 10 mg, 60 caps of elemental forskolin	15.00	11.25		
	FORSKOLIN - 4 bottles of 60 caps of elemental forskolin	50.00	37.50		
00993	FUCOXANTHIN-SLIM™ - 90 softgels	44.00	33.00		
	FUCOXANTHIN-SLIM™ - 4 bottles of 90 softgels	156.00	117.00		
G					
00127	GABA POWDER - 100 grams of powder	\$23.75	\$17.81		
	GABA POWDER - 4 bottles of powder	90.00	67.50		
00559	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 60 softgels	42.00	31.50		
	GAMMA E TOCOPHEROL/TOCOTRIENOLS - 4 bottles of 60 softgels	148.00	111.00		
00759	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 60 softgels	32.00	24.00		
	GAMMA E TOCOPHEROL W/SESAME LIGNANS - 4 bottles of 60 softgels	116.00	87.00		
00117	GELATIN CAPSULES - Set of 1000 empty caps size "00"	19.00	14.25		
	GELATIN CAPSULES - 4 Sets	72.00	54.00		
01301	GH PITUITARY SUPPORT DAY FORMULA - 120 vegetarian tabs	48.00	36.00		
	GH PITUITARY SUPPORT DAY FORMULA - 4 bottles of 120 veg. tabs	176.00	132.00		
01302	GH PITUITARY SUPPORT NIGHT FORMULA - 120 veg. caps	25.00	18.75		
	GH PITUITARY SUPPORT NIGHT FORMULA - 4 bottles of 120 veg. caps	90.00	67.50		
00778	GINKGO BILOBA CERTIFIED EXTRACT™ - 120 mg, 365 caps	46.00	34.50		
	GINKGO BILOBA CERTIFIED EXTRACT™ - 2 bottles of 365 caps	87.00	65.25		
00504	(SUPER) GINKGO EXTRACT - 120 mg, 100 caps	29.00	21.75		
	(SUPER) GINKGO EXTRACT - 4 bottles of 100 caps	106.00	79.50		
01032	(PANAX RED) GINSENG - 60 veg. caps	29.99	22.49		
00756	(MEGA) GLA WITH SESAME LIGNANS - 60 softgels	19.50	14.63		
	(MEGA) GLA WITH SESAME LIGNANS - 4 bottles of 60 softgels	72.00	54.00		
00345	(L) GLUTAMINE CAPSULES - 500 mg, 100 caps	14.95	11.21		
	(L) GLUTAMINE CAPSULES - 4 bottles of 100 caps	54.00	40.50		
00141	(L)-GLUTAMINE POWDER - 100 grams of powder	19.00	14.25		
	(L)-GLUTAMINE POWDER - 4 bottles of powder	67.52	50.64		
00522	GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps	38.00	28.50		
	GLUCOSAMINE/CHONDROITIN CAPSULES - 4 bottles of 100 caps	128.00	96.00		
00512	GLUCOFIT™ (COROSOLIC ACID) - 100 softgels	28.00	21.00		
	GLUCOFIT™ (COROSOLIC ACID) - 4 bottles of 100 softgels	100.00	75.00		
00113	GLUTATHIONE, C & CYSTEINE - 750 mg, 100 caps	18.00	13.50		
	GLUTATHIONE, C & CYSTEINE - 4 bottles of 100 caps	64.00	48.00		

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

** Can only be sold in the United States.

† Member pricing not valid on this item.

SUB-TOTAL OF COLUMN 8

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
G CONTINUED					
00314	(MEGA) L-GLUTATHIONE - 250 mg, 60 caps	\$35.95	\$26.96		
	(MEGA) L-GLUTATHIONE - 4 bottles of 60 caps	129.44	97.08		
00795	GLYCINE CAPSULES - 1000 mg, 100 caps	12.00	9.00		
	GLYCINE CAPSULES - 4 bottles of 100 caps	43.20	32.40		
00128	GLYCINE POWDER - 300 grams of powder	18.00	13.50		
	GLYCINE POWDER - 4 bottles of powder	64.00	48.00		
01091	(WHOLE) GRAPE EXTRACT w/RESVERATROL - 60 veg. caps	36.00	27.00		
	(WHOLE) GRAPE EXTRACT w/RESVERATROL - 4 bottles of 60 veg. caps	136.00	102.00		
01411	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-100 mg, 60 veg. caps	36.00	27.00		
	GRAPE SEED EXTRACT w/RESVERATROL & PTEROSTILBENE-4 bottles of 60 veg. caps	136.00	102.00		
00953	(MEGA) GREEN TEA EXTRACT - lightly caffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
00954	(MEGA) GREEN TEA EXTRACT - decaffeinated - 100 veg. caps	28.00	21.00		
	(MEGA) GREEN TEA EXTRACT - 4 bottles of 100 veg. caps	106.00	79.50		
H					
01074	5 HTP - 100 mg, 60 caps	\$27.95	\$20.96		
00230	HCA - 90 caps	18.00	13.50		
	HCA - 4 bottles of 90 caps	62.00	46.50		
00656	HEPATOPRO - 900 mg, 60 softgel	49.50	37.13		
	HEPATOPRO - 4 bottles of 60 softgel	188.00	141.00		
00873	HI-LIGNAN NUTRI-FLAX - 16 oz powder	9.95	7.46		
00800	HOMOCYSTEINE RESIST - 100 caps	24.00	18.00		
	HOMOCYSTEINE RESIST - 4 bottles of 100 caps	86.40	64.80		
00067	HOODIA GORDONII - 60 caps	14.00	10.50		
00627	HUPERZINE A W/NATURAL VITAMIN E - 50 mcg, 60 caps	27.95	20.96		
	HUPERZINE A W/NATURAL VITAMIN E - 4 bottles of 60 caps	96.00	72.00		
00661	HYDRODERM® - 1 oz bottle	79.95	59.96		
	HYDRODERM® - 2 - 1 oz bottles	130.66	98.00		
I					
01060	i26 HYPERIMMUNE EGG - 140 grams of powder	\$49.99	\$42.00		
01065	IDEAL BOWEL SUPPORT 299V - 30 veg. caps	21.95	16.46		
00955	IMMUNE PROTECT W/PARACTIN® - 30 veg. caps	29.50	22.13		
	IMMUNE PROTECT W/PARACTIN® - 4 bottles of 30 veg. caps	106.20	79.65		
01049	INNERPOWER™ W/SWEET STEVIA- Tropical Flavor Powder	42.00	31.50		
00155	INOSINE CAPSULES - 500 mg, 60 caps	22.95	17.21		
	INOSINE CAPSULES - 4 bottles of 60 caps	84.00	63.00		
00109	INOSITOL CAPSULES - 500 mg, 100 caps	14.99	11.24		
	INOSITOL CAPSULES - 4 bottles of 100 caps	55.16	41.37		
00410	INOSITOL CAPSULES - 1000 mg, 360 caps	48.00	36.00		
	INOSITOL CAPSULES - 4 bottles of 360 caps	175.00	131.25		
00108	INOSITOL POWDER - 100 grams of powder	18.00	13.50		
	INOSITOL POWDER - 4 bottles of powder	67.52	50.64		
01021	INTACT DIGEST™ - 8 fl oz	35.00	26.25		
	INTACT DIGEST™ - 4 - 8 fl oz bottles	132.00	99.00		
01292	INTEGRA-LEAN® IRVINGIA - 150 mg, 60 veg. caps	34.00	25.50		
	INTEGRA-LEAN® IRVINGIA - 4 bottles of 60 veg. caps	120.00	90.00		
01002	IODORAL - 180 caps	50.00	37.50		
00563	IRON PROTEIN PLUS - 300 mg, 100 caps	24.00	18.00		
	IRON PROTEIN PLUS - 4 bottles of 100 caps	88.00	66.00		
01492	(OPTIMIZED) IRVINGIA W/PHASE 3™ - 120 veg. caps	64.00	48.00		
	CALORIE CONTROL COMPLEX				
	(OPTIMIZED) IRVINGIA W/PHASE 3™ - 4 bottles of 120 veg. caps	240.00	180.00		
	CALORIE CONTROL COMPLEX				

SUB-TOTAL OF COLUMN 9

No.		Retail	Member Price	Qty	Total
J, K					
00056	JARRO-DOPHILUS EPS™ - 60 veg. caps	\$19.95	\$14.96		
01224	(SUPER) K WITH ADVANCED K2 COMPLEX - 90 softgels	26.00	19.50		
	(SUPER) K WITH ADVANCED K2 COMPLEX - 4 bottles of 90 softgels	92.00	69.00		
01050	NKO KRILL OIL - 60 softgels	33.95	25.46		
00316	KYOLIC® GARLIC FORMULA 102 - 350 mg, 200 caps	23.95	17.96		
	KYOLIC® GARLIC FORMULA 102 - 4 bottles of 200 caps	82.00	61.50		
00214	KYOLIC® GARLIC FORMULA 105 - 200 caps	22.95	17.21		
	KYOLIC® GARLIC FORMULA 105 - 4 bottles of 200 caps	73.00	54.75		
00789	KYOLIC® RESERVE - 600 mg, 120 caps	24.75	18.56		
	KYOLIC® RESERVE - 4 bottles of 120 caps	85.80	64.36		
L					
00513	LACTOFERRIN (APOLACTOFERRIN) CAPS - 300 mg, 60 caps	\$40.00	\$30.00		
	LACTOFERRIN (APOLACTOFERRIN) CAPS - 4 bottles of 60 caps	144.00	108.00		
00017	LAVILIN UNDERARM DEODORANT - 12.5 grams of cream	15.00	11.25		
	LAVILIN UNDERARM DEODORANT - 4 jars of cream	55.00	41.25		
01003	LIFE EXTENSION CAT MIX - 100 grams of powder	15.00	11.25		
	LIFE EXTENSION CAT MIX - 4 bottles of powder	48.00	36.00		
00544	LIFE EXTENSION DOG MIX - 100 grams of powder	19.50	14.63		
	LIFE EXTENSION DOG MIX - 4 bottles of powder	64.00	48.00		
00010	LIFE EXTENSION HAIR CONDITIONER - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION HAIR CONDITIONER - 4 bottles	18.00	13.50		
00020	LIFE EXTENSION LECITHIN GRANULES - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN GRANULES - 4 jars	50.00	37.50		
00019	LIFE EXTENSION LECITHIN w/B5 AND BHA - 16 oz. jar	15.00	11.25		
	LIFE EXTENSION LECITHIN w/B5 AND BHA - 4 16 oz. 4 jars	50.00	37.50		
01538	LIFE EXTENSION MIX™ - 315 veg. tablets	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 veg. tablets	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 veg. tablets	695.00	521.25		
01555	LIFE EXTENSION MIX™ - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets	695.00	521.25		
01557	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 315 tablets	98.00	73.50		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 4 bottles of 315 tablets	344.00	258.00		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN - 10 bottles of 315 tablets	695.00	521.25		
01554	LIFE EXTENSION MIX™ - 490 caps	110.00	82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps	850.00	637.50		
01556	LIFE EXTENSION MIX™ POWDER - 14.81 oz of powder	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder	720.00	540.00		
01565	LIFE EXTENSION MIX™ - 315 tablets without copper	98.00	73.50		
	LIFE EXTENSION MIX™ - 4 bottles of 315 tablets without copper	344.00	258.00		
	LIFE EXTENSION MIX™ - 10 bottles of 315 tablets without copper	695.00	521.25		
01567	LIFE EXTENSION MIX™ W/EXTRA NIACIN 315 tablets w/o copper	98.00	73.50		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN 4 bottles of 315 tablets w/o copper	344.00	258.00		
	LIFE EXTENSION MIX™ W/EXTRA NIACIN 10 bottles of 315 tablets w/o copper	695.00	521.25		
01564	LIFE EXTENSION MIX™ - 490 caps without copper	110.00	82.50		
	LIFE EXTENSION MIX™ - 4 bottles of 490 caps without copper	392.00	294.00		
	LIFE EXTENSION MIX™ - 10 bottles of 490 caps without copper	850.00	637.50		
01566	LIFE EXTENSION MIX™ POWDER - 14.81 oz of powder without copper	98.00	73.50		
	LIFE EXTENSION MIX™ POWDER - 4 bottles of powder without copper	344.00	258.00		
	LIFE EXTENSION MIX™ POWDER - 10 bottles of powder without copper	720.00	540.00		

SUB-TOTAL OF COLUMN 10

No.		Retail	Member Price	Qty	Total
01279	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 16 oz bottle	\$18.50	\$13.88		
	LIFE EXTENSION MOUTHWASH w/POMEGRANATE - 4 -16 oz bottle	68.00	51.00		
01501	LIFE EXTENSION ONE-PER-DAY - 60 veg. tablets	19.95	14.96		
	LIFE EXTENSION ONE-PER-DAY - 4 bottles of 60 veg. tablets	72.00	54.00		
00011	LIFE EXTENSION SHAMPOO - 16 oz bottle	6.00	4.50		
	LIFE EXTENSION SHAMPOO - 4 bottles	19.00	14.25		
01278	LIFE EXTENSION TOOTHPASTE MINT FLAVOR - 4 oz	9.50	7.13		
	LIFE EXTENSION TOOTHPASTE MINT FLAVOR - 4, 4 oz tubes	34.68	26.00		
01516	LIFE EXTENSION TWO-PER-DAY - 60 veg. tablets	9.95	7.46		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 60 veg. tablets	36.00	27.00		
01515	LIFE EXTENSION TWO-PER-DAY - 120 veg. tablets	18.95	14.21		
	LIFE EXTENSION TWO-PER-DAY - 4 bottles of 120 veg. tablets	68.00	51.00		
00263	LIFE FLORA™ - 300 mg, 120 caps	20.50	15.38		
	LIFE FLORA™ - 4 bottles of 120 caps	75.00	56.25		
00032	LIFE MIX - 1 lb can of powder	25.00	18.75		
	LIFE MIX - 4 cans of powder	90.00	67.50		
01314	LIFESHIELD® IMMUNITY™ - 60 veg. caps	39.95	29.96		
00939	5-LOXIN® - 75 mg, 100 veg. caps	19.50	14.63		
	5-LOXIN® - 4 bottles of 100 veg. caps	69.00	51.75		
01013	L-LYSINE CAPSULES - 620 mg, 100 caps	9.00	6.75		
	L-LYSINE CAPSULES - 4 bottles of 100 caps	32.00	24.00		
00129	L-LYSINE POWDER - 300 grams of powder	16.00	12.00		
	L-LYSINE POWDER - 4 bottles of powder	55.00	41.25		
01470	LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE - 120 veg. caps	28.00	21.00		
	LURALEAN® CAPS SPECIAL PROPOLMANNAN PARTICLE SIZE - 4 bottles of 120 veg. caps	100.00	75.00		
01017	LUSTRE™ - 90 tablets	17.50	13.13		
	LUSTRE™ - 4 bottles of 90 tablets	62.00	46.50		
01028	LYCOPENE - 10 mg, 60 softgels	24.98	18.74		
00455	(MEGA) LYCOPENE EXTRACT - 15 mg, 90 softgels	35.00	26.25		
	(MEGA) LYCOPENE EXTRACT - 4 bottles of 90 softgels	120.00	90.00		
M					
01044	MAGNESIUM CAPS - 500 mg, 100 caps	\$9.50	\$7.13		
	MAGNESIUM CAPS - 4 bottles of 100 caps	32.00	24.00		
00502	MAGNESIUM CITRATE CAPS - 160 mg, 100 caps	9.00	6.75		
	MAGNESIUM CITRATE CAPS - 4 bottles of 100 caps	30.00	22.50		
00704	MAITAKE™ SX-FRACTION - 90 veg. tablets	49.95	37.46		
00547	MELATONIN - 300 mcg, 100 caps	5.75	4.31		
	MELATONIN - 4 bottles of 100 caps	20.00	15.00		
01083	MELATONIN CAPSULES - 500 mcg, 200 veg. caps	18.00	13.50		
	MELATONIN CAPSULES - 4 bottles of 200 veg. caps	64.00	48.00		
00329	MELATONIN CAPSULES - 1 mg, 60 caps	5.00	3.75		
	MELATONIN CAPSULES - 4 bottles of 60 caps	18.52	13.89		
00330	MELATONIN CAPSULES - 3 mg, 60 caps	8.00	6.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	27.52	20.64		
01086	MELATONIN CAPSULES - 3 mg, 60 time-release veg. caps	10.50	7.88		
	MELATONIN CAPSULES - 4 bottles of 60 time-release veg. caps	37.52	28.14		
00331	MELATONIN CAPSULES - 10 mg, 60 caps	28.00	21.00		
	MELATONIN CAPSULES - 4 bottles of 60 caps	96.00	72.00		
00332	MELATONIN LOZENGES - 3 mg, 60 dissolve-in-mouth lozenges	8.00	6.00		
	MELATONIN LOZENGES - 4 bottles of 60 dissolve-in-mouth lozenges	27.52	20.64		
01087	MELATONIN TIME RELEASE - 300 mcg, 100 veg. caps	6.25	4.69		
	MELATONIN TIME RELEASE - 4 bottles of 100 veg. caps	22.52	16.89		

SUB-TOTAL OF COLUMN 11

No.		Retail	Member Price	Qty	Total
01088	MELATONIN TIME RELEASE - 750 mcg, 60 veg. caps	\$5.75	\$4.31		
	MELATONIN TIME RELEASE - 4 bottles of 60 veg. caps	20.00	15.00		
01009	MEMORY UPGRADE - 600 grams powder	26.95	20.21		
01047	MENOPAUSE SOLUTIONS - 120 tablets	49.95	37.46		
00536	METHYLCOBALAMIN - 1 mg, 60 dissolve-in-mouth lozenges (vanilla)	9.95	7.46		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	32.00	24.00		
00537	METHYLCOBALAMIN - 5 mg, 60 dissolve-in-mouth lozenges (vanilla)	32.00	24.00		
	METHYLCOBALAMIN - 4 bottles of 60 dissolve-in-mouth lozenges	100.00	75.00		
	METHYLCOBALAMIN - 10 bottles of 60 dissolve-in-mouth lozenges	230.00	172.50		
00709	MIGRA-EEZE (BUTTERBUR) - 60 softgels	29.50	22.13		
	MIGRA-EEZE (BUTTERBUR) - 4 bottles of 60 softgels	105.32	79.00		
00623	MINERAL FORMULA FOR MEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR MEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR MEN - 12 bottles of 100 caps	130.00	97.50		
00624	MINERAL FORMULA FOR WOMEN - 100 caps	15.00	11.25		
	MINERAL FORMULA FOR WOMEN - 4 bottles of 100 caps	50.00	37.50		
	MINERAL FORMULA FOR WOMEN - 12 bottles of 100 caps	130.00	97.50		
01315	(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS - 120 caps	62.00	46.50		
	(SUPER) MIRAFORTE w/STANDARDIZED LIGNANS - 4 bottles of 120 caps	224.00	168.00		
01569	MITOCHONDRIAL BASICS w/BIOPQQ™ - 30 caps	56.00	42.00		
	MITOCHONDRIAL BASICS w/BIOPQQ™ - 4 bottles of 30 caps	200.00	150.00		
01568	MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPQQ™ - 120 caps	94.00	70.50		
	MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPQQ™ - 4 bottles of 120 caps	336.00	252.00		
00803	MISTORAL III w/COQ10 - 2 fl oz bottle	28.00	21.00		
	MISTORAL III w/COQ10 - 4 bottles	101.32	75.99		
00065	MK-7 - 90 mcg, 60 softgels	28.00	21.00		
	MK-7 - 4 bottles of 60 softgels	100.00	75.00		
00451	MSM (METHYL-SULFONYL-METHANE) - 1000 mg, 100 caps	14.00	10.50		
	MSM (METHYL-SULFONYL-METHANE) - 4 bottles of 100 caps	47.80	35.85		

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00215	N-ACETYL CYSTEINE CAPSULES - 600 mg, 60 caps	\$14.00	\$10.50		
	N-ACETYL CYSTEINE CAPSULES - 4 bottles of 60 caps	54.00	40.50		
00168	NAPCA W/ALOE VERA - 8 fl oz bottle	10.00	7.50		
	NAPCA W/ALOE VERA - 4 bottles	36.60	27.45		
00066	NATTOKINASE - 60 softgels	24.98	18.74		
00718	NATTOKINASE (FIBRINOGEN RESIST FORMULA) - 30 caps	49.00	36.75		
	NATTOKINASE (FIBRINOGEN RESIST FORMULA) - 4 bottles of 30 caps	176.00	132.00		
00891	NATURAL APPETITE CONTROL - 90 softgels	28.00	21.00		
	NATURAL APPETITE CONTROL - 4 bottles of 90 softgels	100.80	75.60		
00984	NATURAL BP MANAGEMENT - 60 tablets	42.00	31.50		
	NATURAL BP MANAGEMENT - 4 bottles of 60 tablets	151.20	113.40		
00913	NATURAL ESOPHAGUARD - 10 softgels	19.95	14.96		
	NATURAL ESOPHAGUARD - 2 boxes of 10 softgels	38.00	28.50		
00712	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 60 caplets	38.00	28.50		
	NATURAL ESTROGEN w/POMEGRANATE EXTRACT - 4 bottles of 60 caplets	132.00	99.00		
01221	NATURAL FEMALE SUPPORT - 30 veg. caps	28.00	21.00		
	NATURAL FEMALE SUPPORT - 4 bottles of 30 veg. caps	96.00	72.00		
01471	NATURAL GLUCOSE ABSORPTION CONTROL - 60 veg. caps	39.00	29.25		
	NATURAL GLUCOSE ABSORPTION CONTROL - 4 bottles of 60 veg. caps	144.00	108.00		
00698	NATURAL RELIEF 1222™ - 2 oz tube	28.00	21.00		
	NATURAL RELIEF 1222™ - 4, 2 oz tubes	100.00	75.00		
01084	NATURAL SLEEP - 3 mg, 60 veg. caps	12.99	9.74		
	NATURAL SLEEP - 4 bottles of 60 veg. caps	40.00	30.00		

SUB-TOTAL OF COLUMN 12

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
N CONTINUED					
01085	NATURAL SLEEP MELATONIN - 5 mg, 60 veg. caps	\$18.00	\$13.50		
	NATURAL SLEEP MELATONIN - 4 bottles of 60 veg. caps	64.00	48.00		
00987	NATURAL STRESS RELIEF - 30 veg. caps	28.00	21.00		
	NATURAL STRESS RELIEF - 4 bottles of 30 veg. caps	96.00	72.00		
01076	NEW FACE SOLUTION - 1.7 oz bottle	54.00	40.50		
	NEW FACE SOLUTION - 4 bottles of 1.7 oz	196.00	147.00		
00096	NIACIN (B-3) CAPSULES - 1000 mg, 100 caps	12.75	9.56		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	48.00	36.00		
00372	NIACIN (B-3) CAPSULES - 500 mg, 100 caps	7.65	5.74		
	NIACIN (B-3) CAPSULES - 4 bottles of 100 caps	26.60	19.95		
00373	NO-FLUSH NIACIN - 800 mg, 100 caps	19.00	14.25		
	NO-FLUSH NIACIN - 4 bottles of 100 caps	68.00	51.00		
01035	NUTRIM POWDER - 170 grams powder	25.95	19.46		
00523	N-ZIMES® - 270 caps	23.90	17.93		
	N-ZIMES® - 4 bottles of 270 caps	88.00	66.00		
O					
00104	OCTACOSANOL - 8000 mcg, 60 caps	\$17.99	\$13.49		
	OCTACOSANOL - 4 bottles of 60 caps	62.96	47.22		
01483	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 60 softgels	18.00	13.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 4 bottles of 60 softgels	64.00	48.00		
01482	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 120 softgels	32.00	24.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 4 bottles of 120 softgels	112.00	84.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT - 10 bottles of 120 softgels	249.00	186.75		
01484	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 120 softgels	34.00	25.50		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 4 bottles of 120 softgels	124.00	93.00		
	(SUPER) OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE FRUIT EXTRACT (ENTERIC COATED) - 10 bottles of 120 softgels	280.00	210.00		
00717	ONLY TRACE MINERALS - 90 caps	15.00	11.25		
	ONLY TRACE MINERALS - 4 bottles of 90 caps	50.00	37.50		
00915	OPTIZINC® - 30 mg, 90 veg. caps	5.95	4.46		
	OPTIZINC® - 4 bottles of 90 veg. caps	20.00	15.00		
01070	ORGANIC TOTAL BODY CLEANSE - 14-day supply	34.99	26.24		
00043	L-ORNITHINE CAPSULES - 500 mg, 100 caps	24.95	18.71		
	L-ORNITHINE CAPSULES - 4 bottles of 100 caps	80.00	60.00		
P					
00107	PABA CAPS - 500 mg, 100 caps	\$13.99	\$10.49		
	PABA CAPS - 4 bottles of 100 caps	49.32	36.99		
00073	PANCREATIN - 500 mg, 50 caps	11.99	8.99		
	PANCREATIN - 4 bottles of 50 caps	43.96	32.97		
00923	PEAK ATP® WITH GLYCOCARN® - 60 tablets	59.00	44.25		
	PEAK ATP® WITH GLYCOCARN® - 4 bottles of 60 tablets	224.00	168.00		
00342	PECTA-SOL - One-month supply modified citrus pectin	99.95	74.96		
	PECTA-SOL - Four-month supply modified citrus pectin	382.80	287.10		
01080	PECTA-SOL-C® MODIFIED CITRUS PECTIN - 270 veg. caps	69.95	52.46		
00872	PGX FIBER POWDER (SLIMSTYLES) - 6.4 oz powder	22.95	17.21		
00673	(WELLBETX) PGX SOLUBLE FIBER BLEND -180 caps	34.95	26.21		
00865	PHARMAGABA™ - 60 chewable tablets	29.95	22.46		
	PHARMAGABA™ - 4 bottles of 60 chewable tablets	108.00	81.00		
00368	PHOSPHATIDYLSERINE CAPS - 100 mg, 100 caps	54.00	40.50		
	PHOSPHATIDYLSERINE CAPS - 4 bottles of 100 caps	192.00	144.00		
01050	PHOSPHOMEGA™ KRILL OIL - 60 softgels	33.95	25.46		
00614	PILL CUTTER/GRINDER	11.95	8.96		

SUB-TOTAL OF COLUMN 13

DECEMBER 2010

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

* Product cannot be sold outside the USA.

SUB-TOTAL OF COLUMN 14

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

No.		Retail	Member Price	Qty	Total
01217	PYRIDOXAL 5'-PHOSPHATE - 100 mg, 60 veg. caps	\$22.00	\$16.50		
	PYRIDOXAL 5'-PHOSPHATE - 4 bottles of 60 veg. caps	79.20	59.40		
Q, R					
01309	(OPTIMIZED) QUERCETIN - 250 mg, 60 veg. caps	\$18.00	\$13.50		
	(OPTIMIZED) QUERCETIN - 4 bottles of 60 veg. caps	68.00	51.00		
01030	RED YEAST RICE (Bluebonnet)- 600 mg, 60 veg. caps	16.95	12.71		
00979	RED YEAST RICE (Nature's Plus)- 600 mg, 60 veg. caps	23.20	17.40		
00060	RED YEAST RICE EXTENDED RELEASE (Nature's Plus)- 30 veg. tablets	20.55	15.41		
00605	REGIMINT® - 60 enteric-coated caps	19.95	14.96		
	REGIMINT® - 4 bottles of 60 caps	74.68	56.01		
00448	REJUVENEX® BODY LOTION - 6 oz tube	24.00	18.00		
	REJUVENEX® BODY LOTION - 4 tubes	79.20	59.40		
	REJUVENEX® BODY LOTION - 8 tubes	136.00	102.00		
00918	REJUVENEX® FACTOR - 1.7 oz Airless pump bottle	65.00	48.75		
	REJUVENEX® FACTOR - 2 bottles	120.00	90.00		
	REJUVENEX® FACTOR - 4 bottles	220.00	165.00		
	REJUVENEX® FACTOR - 8 bottles	399.28	299.46		
01220	(ULTRA) REJUVENEX® - 2 oz jar	52.00	39.00		
	(ULTRA) REJUVENEX® - 2 jars	96.00	72.00		
	(ULTRA) REJUVENEX® - 4 jars	176.00	132.00		
	(ULTRA) REJUVENEX® - 8 jars	319.44	239.38		
00676	(ULTRA) REJUVENIGHT (DREAM CREAM) - 2 oz jar	39.95	29.96		
	(ULTRA) REJUVENIGHT (DREAM CREAM) - 4 jars	144.00	108.00		
00706	(ULTRA) REJUVENIGHT w/PROGESTERONE - 2 oz jar	42.00	31.50		
	(ULTRA) REJUVENIGHT w/PROGESTERONE - 4 jars	152.00	114.00		
01413	RESVERATROL w/PTEROSTILBENE - 20 mg, 60 veg. caps	24.00	18.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	88.00	66.00		
01410	RESVERATROL w/PTEROSTILBENE - 100 mg, 60 veg. caps	36.00	27.00		
	RESVERATROL w/PTEROSTILBENE - 4 bottles of 60 veg. caps	128.00	96.00		
01430	(OPTIMIZED) RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES - 250 mg, 60 veg. caps	46.00	34.50		
	(OPTIMIZED) RESVERATROL w/SYNERGISTIC GRAPE-BERRY ACTIVES - 4 bottles of 60 veg. caps	165.32	124.00		
00889	RHODIOLA EXTRACT - 250 mg, 60 veg. caps	11.75	8.81		
	RHODIOLA EXTRACT - 4 bottles of 60 veg. caps	42.32	31.74		
00972	(D) RIBOSE POWDER - 150 grams of powder	27.50	20.63		
	(D) RIBOSE POWDER - 4 jars of 150 grams	99.00	74.25		
01473	(D) RIBOSE CAPS - 100 veg. tabs	32.00	24.00		
	(D) RIBOSE CAPS - 4 bottles of 100 veg. tabs	112.00	84.00		
01208	(SUPER) R-LIPOIC ACID - 300 mg, 60 veg. caps	49.00	36.75		
	(SUPER) R-LIPOIC ACID - 4 bottles of 60 veg. caps	180.00	135.00		
00070	RNA CAPSULES - 500 mg, 100 caps	17.95	13.46		
	RNA CAPSULES - 4 bottles of 100 caps	64.64	48.48		
00917	ROSMARINIC ACID EXTRACT - 60 veg. caps	59.00	44.25		
	ROSMARINIC ACID EXTRACT - 4 bottles of 60 veg. caps	212.00	159.00		
S					
01082	(JARROW) SACCHAROMYCES BOULARDII + MOS - 30 veg. caps	\$9.95	\$7.46		
01067	(JARROW) SACCHAROMYCES BOULARDII + MOS - 90 veg. caps	21.95	16.46		
01432	(OPTIMIZED) SAFFRON w/SATIEREAL - 60 veg. caps	36.00	27.00		
	(OPTIMIZED) SAFFRON w/SATIEREAL - 4 bottles of 60 veg. caps	128.00	96.00		
*00573	SAMBU GUARD - 175 ml	17.49	13.99		
00358	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 20 enteric coated tablets	17.00	12.75		
	SAME (S-ADENOSYL-METHIONINE) - 8 boxes of 20 enteric coated tablets	120.00	90.00		

SUB-TOTAL OF COLUMN 15

No.		Retail	Member Price	Qty	Total
00453	SAME (S-ADENOSYL-METHIONINE) - 200 mg, 50 enteric coated tablets	\$40.00	\$30.00		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 enteric coated tablets	140.00	105.00		
00557	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 20 enteric coated tablets	32.00	24.00		
	SAME (S-ADENOSYL-METHIONINE) - 6 boxes of 20 enteric coated tablets	150.00	112.50		
01055	SAME (S-ADENOSYL-METHIONINE) - 400 mg, 50 tablets	72.00	54.00		
	SAME (S-ADENOSYL-METHIONINE) - 4 bottles of 50 tablets	264.00	198.00		
01043	SEA-IODINE™ - 1000 mcg, 60 veg. caps	8.00	6.00		
	SEA-IODINE™ - 4 bottles of 60 veg. caps	28.80	21.60		
00046	SELENIUM - 2 oz dropper bottle	9.45	7.09		
	SELENIUM - 4 bottles of 2 oz bottle	36.00	27.00		
00567	SE-METHYSELENOCYSTEINE - 200 mcg, 100 caps	12.00	9.00		
	SE-METHYSELENOCYSTEINE - 4 bottles of 100 caps	44.00	33.00		
00318	SERRAFLAZYME - 100 tablets	18.00	13.50		
	SERRAFLAZYME - 4 bottles of 100 tablets	64.00	48.00		
00284	SHARK LIVER OIL (NORWEGIAN) - 1000 mg, 30 softgels	18.00	13.50		
	SHARK LIVER OIL (NORWEGIAN) - 4 bottles of 30 softgels	64.00	48.00		
00184	SILYMARIN - 100 mg, 50 caps	9.25	6.94		
	SILYMARIN - 4 bottles of 50 caps	33.00	24.75		
00702	(MEGA) SILYMARIN WITH ISOSILYBIN B - 100 caps	42.00	31.50		
	(MEGA) SILYMARIN WITH ISOSILYBIN B - 4 bottles of 100 caps	152.00	114.00		
01502	SKIN RESTORING CERAMIDES w/LIPOWHEAT™ - 30 liquid caps	25.00	18.75		
	SKIN RESTORING CERAMIDES w/LIPOWHEAT™ - 4 bottles of 30 liq. caps	92.00	69.00		
00872	SLIMSTYLES PGX® - 6.4 oz powder	22.95	17.21		
00961	SODZYME® w/GLISODIN® AND WOLFBERRY - 90 veg. caps	28.00	21.00		
	SODZYME® w/GLISODIN® AND WOLFBERRY - 4 bottles of 90 veg. caps	96.00	72.00		
00657	SOLARSHIELD SUNGLASSES - 1 pair smoke color	12.99	9.74		
	SOLARSHIELD SUNGLASSES - 2 pair smoke color	23.00	17.25		
01097	(ULTRA) SOY EXTRACT - 150 veg. caps	87.00	65.25		
	(ULTRA) SOY EXTRACT - 4 bottles of 150 veg. caps	312.00	234.00		
00304	SOY POWER POWDER - 300 grams of powder	31.50	23.63		
	SOY POWER POWDER - 4 bottles of powder	114.00	85.50		
00286	SOY PROTEIN POWDER (concentrated soy protein) - 16 oz of powder	12.00	9.00		
	SOY PROTEIN POWDER - 4 bottles of powder	42.50	31.87		
01099	STABILIMUM® 200 - 30 caps	30.00	22.50		
00432	STEVIA EXTRACT - 100 packets, 1 gram each	9.95	7.46		
	STEVIA EXTRACT - 4 boxes of 100 packets	36.00	27.00		
00351	ST. JOHN'S WORT EXTRACT - 300 mg, 60 caps	10.98	8.24		
	ST. JOHN'S WORT EXTRACT - 4 bottles of 60 caps	40.00	30.00		
00327	ST. JOHN'S WORT EXTRACT (PLANETARY) - 600 mg, 60 tablets	16.75	12.56		
	ST. JOHN'S WORT EXTRACT (PLANETARY) - 4 bottles of 60 tablets	55.40	41.55		
01476	STRONTIUM - 750 mg, 90 veg. caps	20.00	15.00		
	STRONTIUM - 4 bottles of 90 veg. caps	72.00	54.00		
00971	SUN PROTECTION SPRAY w/BETA GLUCAN - SPF30 - 6 oz bottle	14.95	11.21		
	SUN PROTECTION SPRAY w/BETA GLUCAN - SPF30 - 4 bottles, 6 oz	54.00	40.50		
00747	(OVERCAST POLARIZED) SUNGLASSES - gray color, large	27.00	20.25		
	(OVERCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00748	(OVERCAST POLARIZED) SUNGLASSES - gray color, medium	27.00	20.25		
	(OVERCAST POLARIZED) SUNGLASSES - 2 pairs, gray color	42.00	31.50		
00758	SUPER ABSORBABLE SOY ISOFLAVONES - 60 caps	28.00	21.00		
	SUPER ABSORBABLE SOY ISOFLAVONES - 4 bottles of 60 caps	100.00	75.00		

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

SUB-TOTAL OF COLUMN 16

Buyers Club Order Form

To order call: 1.954.766.8433 or 1.800.544.4440

No.		Retail	Member Price	Qty	Total
S CONTINUED					
01408	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL 60 softgels	\$28.00	\$21.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL 4 bottles of 60 softgels	104.00	78.00		
	SUPER SAW PALMETTO/NETTLE ROOT w/BETA-SITOSTEROL One-year supply	288.00	216.00		
01407	SUPER SAW PALMETTO w/BETA-SITOSTEROL - 30 softgels	15.00	11.25		
	SUPER SAW PALMETTO w/BETA-SITOSTEROL - 12 bottles of 30 softgels	144.00	108.00		
00578	SUPER SELENIUM COMPLEX - 200 mcg, 100 caps	12.00	9.00		
	SUPER SELENIUM COMPLEX - 4 bottles of 100 caps	40.00	30.00		
	SUPER SELENIUM COMPLEX - 12 bottles of 100 caps	108.00	81.00		
00674	SYTRINOL™ - 60 softgels	32.00	24.00		
	SYTRINOL™ - 4 bottles of 60 softgels	112.00	84.00		
T					
TAL-SHI™ COSMETICS • For information please call 1-800-544-4440 or visit www.lifeextension.com					
01062	TART CHERRY (FRUIT ADVANTAGE) - 600 mg, 60 caps	\$18.95	\$14.21		
00199	TAURINE CAPSULES - 1000 mg, 50 caps	8.95	6.71		
	TAURINE CAPSULES - 4 bottles of 50 caps	32.00	24.00		
00133	TAURINE POWDER - 300 grams, powder	20.00	15.00		
	TAURINE POWDER - 4 bottles of powder	67.52	50.64		
01304	THEAFLAVIN STANDARDIZED EXTRACT - 30 veg. caps	18.00	13.50		
	THEAFLAVIN STANDARDIZED EXTRACT - 4 bottles of 30 veg. caps	64.00	48.00		
00555	(L) THEANINE - 100 mg, 60 caps	24.00	18.00		
	(L) THEANINE - 4 bottles of 60 caps	82.00	61.50		
*01038	THERALAC - 30 caps	44.95	33.71		
00224	THYMIC IMMUNE FACTORS - 100 caps	18.00	13.50		
	THYMIC IMMUNE FACTORS - 4 bottles of 100 caps	56.00	42.00		
00668	(METABOLIC ADVANTAGE) THYROID FORMULA - 100 caps	17.95	13.46		
00349	TMG - 50 grams of powder	14.00	10.50		
	TMG - 4 bottles of powder	44.00	33.00		
00359	TMG TABLETS - 500 mg, 180 tablets	18.00	13.50		
	TMG TABLETS - 4 bottles of 180 tablets	62.00	46.50		
00366	TOCOTRIENOLS - 50 mg, 60 softgel caps	39.95	29.96		
	TOCOTRIENOLS - 4 bottles of 60 softgel caps	144.00	108.00		
00781	TOCOTRIENOLS WITH SESAME LIGNANS - 60 softgels	38.00	28.50		
	TOCOTRIENOLS WITH SESAME LIGNANS - 4 bottles of 60 softgels	144.00	108.00		
01400	(SUPER-ABSORBABLE) TOCOTRIENOLS - 60 softgels	30.00	22.50		
	(SUPER-ABSORBABLE) TOCOTRIENOLS - 4 bottles of 60 softgels	112.00	84.00		
01274	TOTAL SUN PROTECTION CREAM w/BETAGLUCANS - SPF 30, 4 oz Tube & PHOTO-AGING RECOVERY COMPLEX	28.00	21.00		
	TOTAL SUN PROTECTION CREAM w/BETAGLUCANS - 4-4 oz Tubes & PHOTO-AGING RECOVERY COMPLEX	100.80	75.60		
01468	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT - 60 veg. caps	24.00	18.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT -4 bot 60 veg. caps	88.00	66.00		
01469	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT w/RESVERATROL -60 veg. caps	32.00	24.00		
	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT w/RESVERATROL - 4 bottles	118.40	88.80		
01046	TRIPLE ACTION UNDER EYE REJUVENATOR - 0.5 oz pump	24.00	18.00		
	TRIPLE ACTION UNDER EYE REJUVENATOR - 4 boxes	88.00	66.00		
00866	TRYPTOPURE® L-TRYPTOPHAN - 500 mg, 90 veg. caps	38.00	28.50		
	TRYPTOPURE® L-TRYPTOPHAN - 4 bottles of 90 veg. caps	136.00	102.00		
01202	(OPTIMIZED) TRYPTOPURE® PLUS - 90 veg. caps	40.00	30.00		
	(OPTIMIZED) TRYPTOPURE® PLUS - 4 bottles of 90 veg. caps	144.00	108.00		
00326	L-TYROSINE TABLETS - 500 mg, 100 tablets	12.50	9.38		
	L-TYROSINE TABLETS - 4 bottles of 100 tablets	45.68	34.26		

SUB-TOTAL OF COLUMN 17

DECEMBER 2010

No.		Retail	Member Price	Qty	Total
U					
* 00310	UDO'S CHOICE® - 17 oz liquid (omega fatty acids)	\$27.49	\$21.99		
* 00311	UDO'S CHOICE® - 1000 mg, 180 caps	33.79	27.03		
* 00322	UDO'S CHOICE® WHOLESOME FAST FOOD - 1 lb bottle	27.49	21.99		
01061	ULTIMATE FLORA ADVANCED IMMUNITY - 30 caps	29.99	22.49		
V					
00213	VANADYL SULFATE - 7.5 mg, 100 tablets	\$15.00	\$11.25		
	VANADYL SULFATE - 4 bottles of 100 tablets	50.00	37.50		
00252	VELVET DEER ANTLER - 250 mg, 30 caps	36.00	27.00		
	VELVET DEER ANTLER - 4 bottles of 30 caps	136.00	102.00		
00408	VENOTONE - 60 caps	18.95	14.21		
	VENOTONE - 4 bottles of 60 caps	64.00	48.00		
00427	VINPOCETINE - 5 mg, 100 tablets	18.00	13.50		
	VINPOCETINE - 4 bottles of 100 tablets	56.00	42.00		
01033	VISION OPTIMIZER - 90 caps	29.95	22.46		
01098	VITAL GREENS MIX - 319.5 grams of powder	48.00	36.00		
	VITAL GREENS MIX - 4 jars of powder	176.00	132.00		
01219	(INTERPLEXUS) VITAMIN A NUTRISORB - 10,000 IU 0.6 fl oz	27.00	20.25		
00091	VITAMIN B1 CAPS - 500 mg, 100 caps	16.99	12.74		
	VITAMIN B1 CAPS - 4 bottles of 100 caps	60.68	45.51		
00093	VITAMIN B2 CAPS - 100 mg, 100 caps	12.99	9.74		
	VITAMIN B2 CAPS - 4 bottles of 100 caps	47.52	35.64		
00096	VITAMIN B3 (NIACIN) - 1000 mg, 100 caps	12.75	9.56		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	48.00	36.00		
00372	VITAMIN B3 (NIACIN) - 500 mg, 100 caps	7.65	5.74		
	VITAMIN B3 (NIACIN) - 4 bottles of 100 caps	26.60	19.95		
00098	VITAMIN B5 CAPS - 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88		
	VITAMIN B5 CAPS - 4 bottles of 100 caps	37.52	28.14		
00556	VITAMIN B6 CAPS - 250 mg, 100 caps	12.50	9.38		
	VITAMIN B6 CAPS - 4 bottles of 100 caps	44.00	33.00		
00361	VITAMIN B12 TABLETS - 500 mcg, 100 dissolve-in-mouth tablets	8.75	6.56		
	VITAMIN B12 TABLETS - 4 bottles of 100 dissolve-in-mouth tablets	29.00	21.75		
00927	VITAMIN C WITH DIHYDROQUERCETIN - 1000 mg, 250 tablets	25.50	19.13		
	VITAMIN C WITH DIHYDROQUERCETIN - 4 bottles of 250 tablets	93.00	69.75		
00084	(BUFFERED) VITAMIN C POWDER - 454.6 grams of powder	23.95	17.96		
	(BUFFERED) VITAMIN C POWDER - 4 bottles of powder	88.00	66.00		
00864	VITAMIN D - 2000 IU, 1 fl oz	28.00	21.00		
	VITAMIN D - 4 bottles of 1 fl oz	100.00	75.00		
00251	VITAMIN D3 CAPS - 1000 IU, 250 caps	12.50	9.38		
	VITAMIN D3 CAPS - 4 bottles of 250 caps	45.00	33.75		
00713	VITAMIN D3 CAPS - 5000 IU, 60 caps	11.00	8.25		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	39.60	29.70		
01418	VITAMIN D3 CAPS - 7000 IU, 60 caps	14.00	10.50		
	VITAMIN D3 CAPS - 4 bottles of 60 caps	50.40	37.80		
01372	VITAMIN D3 w/SEA-IODINE - 5000 IU, 60 veg. caps	14.00	10.50		
	VITAMIN D3 w/SEA-IODINE - 4 bottles of 60 veg. caps	50.00	37.50		
01472	VITAMINS D AND K w/SEA-IODINE™ - 60 veg. caps	24.00	18.00		
	VITAMINS D AND K w/SEA-IODINE™ - 4 bottles of 60 veg. caps	88.00	66.00		
00063	VITAMIN E CAPS (NATURAL) - 400 IU, 100 caps	18.75	14.06		
	VITAMIN E CAPS (NATURAL) - 4 bottles of 100 caps	69.00	51.75		
	VITAMIN E CAPS (NATURAL) - 10 bottles of 100 caps	150.00	112.50		

* These products are not 25% off retail price.

** Due to license restrictions, this product is not for sale to Canada.

SUB-TOTAL OF COLUMN 18

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

To order online visit: www.lifeextension.com

Buyers Club Order Form

No.		Retail	Member Price	Qty	Total
01225	(LOW-DOSE) VITAMIN K2 (MK-7) - 45 mcg, 90 softgels	\$18.00	\$13.50		
	(LOW-DOSE) VITAMIN K2 (MK-7) - 4 bottles of 90 softgels	64.00	48.00		
Z					
01585	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN AND C3G - 60 softgels	\$22.00	\$16.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN AND C3G- 4 bottles	79.20	59.40		
01586	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN AND C3G	42.00	31.50		
	(SUPER) ZEAXANTHIN W/LUTEIN & MESO-ZEAXANTHIN PLUS ASTAXANTHIN AND C3G- 4 bottles of 60 softgels	152.00	114.00		
00061	ZINC LOZENGES WITH VITAMIN C - 75 lozenges	9.50	7.13		
	ZINC LOZENGES WITH VITAMIN C - 4 bottles of 75 lozenges	27.00	20.25		
01051	ZYFLAMEND - 120 softgels	60.95	45.71		
01029	ZYFLAMEND EASYCAPS - 180 caps	31.95	23.96		

SUB-TOTAL OF COLUMN 19

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As a member of the Life Extension Foundation®, you have the opportunity to participate in a great scientific endeavor. We are the world's premier organization dedicated to stopping and reversing aging.

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When you join the Life Extension Foundation®, we update you on the latest published medical research by sending you FREE books. Our most impressive publication is the 1,666-page *Disease Prevention and Treatment* protocol book that contains novel therapies to treat 133 common diseases of aging. *Disease Prevention and Treatment* is the only book that combines conventional and alternative therapies in order to implement a treatment regimen for fighting the multiple processes involved in degenerative disease.

Each month, Life Extension Foundation® members receive a magazine packed with the latest medical findings from around the world. Members also can call a toll-free phone number to talk to our knowledgeable health advisors about their health issues.

If your number one priority is good health and a long life, please join our not-for-profit organization.

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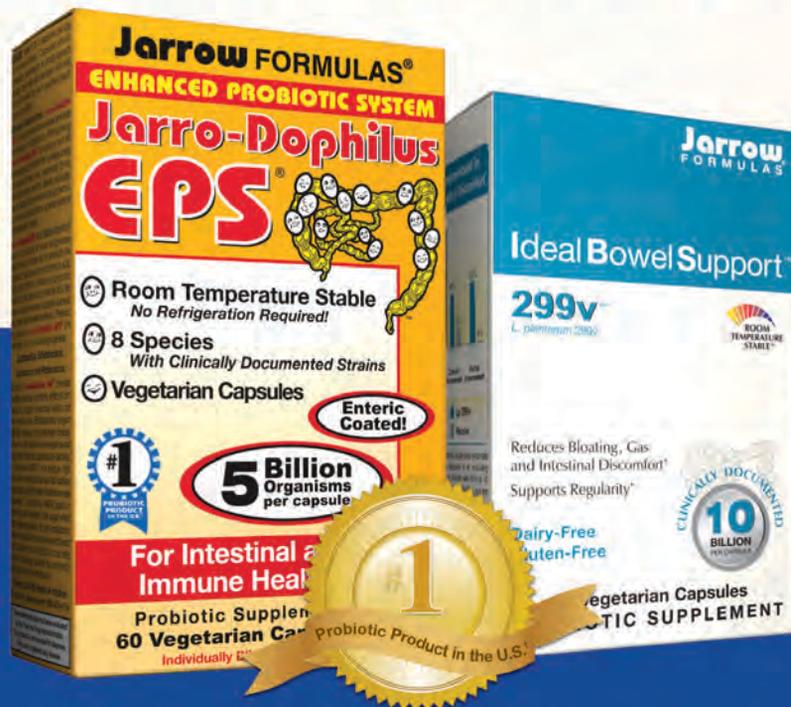
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The proper balance of microflora in the intestines is crucial for health and well-being. **Jarrow Formulas®** probiotic dietary supplements are designed to maintain a healthy balance of these microflora to maximize your digestive and immune system.*

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Is 100 the new 80?

In 1907 when Russian scientist and Nobel laureate Eli Metchnikoff observed rural populations in Bulgaria that were exceptionally long lived, he knew it warranted investigation. The diets of these rural people contained large quantities of milk fermented with lactic acid bacteria.



In his 3rd book, *The Prolongation of Life: Optimistic Studies*, Metchnikoff published findings on the **potential life-lengthening properties of probiotic bacteria.**

As Metchnikoff came to discover, the majority of our immunity begins in the intestines. When we have good intestinal health, we are far more able to fight off infection and invading microorganisms. What Metchnikoff devoted years of research to is now something that we take for granted: **Probiotics do so much more than simply restore regularity.**

Keys to Longevity and Vitality Supported by Theralac®

Theralac achieves the benefits Metchnikoff detailed in his research, and much more!

- ▶ Produces abundant lactic acid which cleanses the small intestine and colon
- ▶ Up regulates both cellular and humoral immune systems
- ▶ Aids in production of Butyric acid, helping to regulate peristaltic action
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- ▶ Is a "Hormone Harmonizer," maintaining estrogen and progesterone levels
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A Different World.

Metchnikoff's subjects lived in an entirely different world: 100 years ago they did not have many of the terrible offshoots of our modern society wreaking havoc with their bodies and digestive tracts:

- ▶ processed foods
- ▶ chlorinated water
- ▶ rampant pollution
- ▶ plastics (BPA) pollution
- ▶ diet soda, trans fats

- ▶ EMF and microwaves
- The most powerful, medical strength probiotic,** Theralac, is needed today when mere fermented foods worked 100 years ago.

The 2 capsules per week needed for maintenance is **less than \$3 per week** at MSRP. You really should take: **Theralac.**



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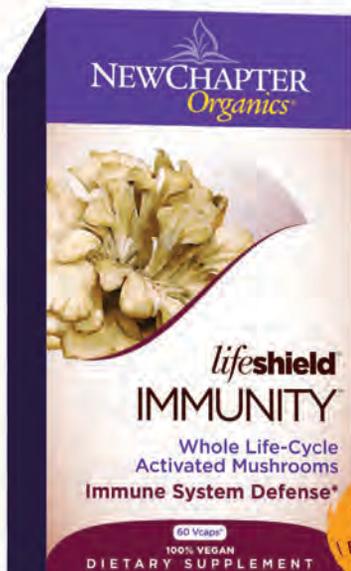
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Whole Life-Cycle Activated Mushrooms

Mushrooms are Marvels of Mother Nature

The number of distinct species is a matter of debate – with estimates ranging from 30,000 to 1.5 million. What is not disputed, however, is the close relationship between mushrooms and humans, and the many benefits mushrooms can provide for overall health and wellness.

Human culture has evolved with mushrooms and many societies have relied on mushrooms to provide a wholesome food source. Over thousands of years of trial and error, many cultures have also discovered health benefits associated with consuming mushrooms. These health benefits are almost as broad as those found in the plant kingdom – and range from immune and respiratory support to promoting healthy liver and brain function.* Societies soon discovered mushrooms can boost vitality, wellness, endurance and even sexual function.* Today, more than fifty years of research has confirmed that mushrooms are indeed a unique class of natural therapeutics capable of addressing a wide range of health concerns.



LifeShield Immunity
Item #01314
Retail Price: ~~\$39.95~~
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The Mushroom Life Cycle

The mushroom life cycle includes three distinct phases: mycelium, fruiting body, and spore. Mushrooms spend most of their life as mycelium, extracting nutrients from their environment and protecting themselves from invaders. Many beneficial compounds known as extracellular compounds are secreted by the mushroom during this critical life process. As the mushroom readies to reproduce, most species form a fruiting body – a structure most people would refer to as the actual “mushroom” since it’s the part of fungi most readily visible. Many species’ fully formed fruiting bodies end their life cycle with the rebirth of the mushroom – when spores are formed and released to begin the life cycle anew. Before being released, spores are equipped with their own arsenal of protective compounds and nutrients which will allow them to survive harsh conditions and thrive in new environments.

The Benefits of Whole

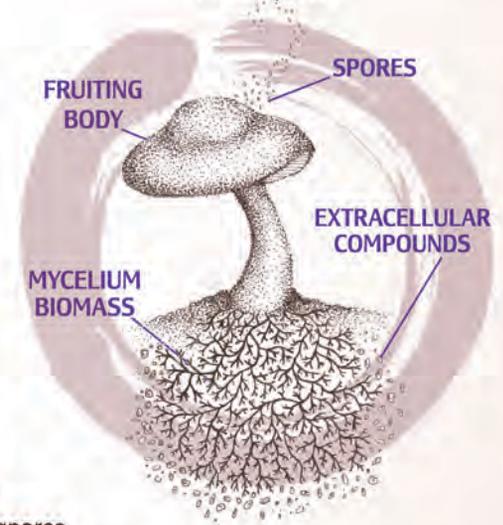
New Chapter[®] believes in the wisdom of nature and the promise of whole food. We believe the combination and preservation of the whole mushroom – and its complete life cycle – is essential.

Many modern products isolate the wisdom of the whole – and focus on one life stage of the mushroom cycle or heavily refine and extract specific compounds from the mushroom. Focusing on just mycelium, for example, ignores the many beneficial and unique compounds that exist only in the fruiting body or spore phase. If mushrooms are selectively refined through extraction, their ability to function as nourishing superfoods can be lost.

New Chapter LifeShield[®] Mushroom formulas deliver tonic mushrooms’ whole protective shield through the combination of mycelium, their extracellular compounds, fruiting bodies, and spores. Each stage of a mushroom’s life cycle adds critical nutrients and protection for the mushroom. The combination of these stages creates the activated LifeShield to promote your health and wellness.*

To order New Chapter’s LifeShield Immunity, call 1-800-544-4440 or visit www.LifeExtension.com

Delivering the *Whole* Mushroom
lifeshield



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Diminished levels of neurotransmitters and other brain compounds profoundly affect cognition and memory in aging adults. **Cognitex** was developed in **1982** to increase brain levels of **acetylcholine**—a neurotransmitter that enables neurons to communicate. Over the years, **Cognitex** has been improved with the addition of nutrients used in **Europe** to protect and enhance neurological function.

Cognitex with Pregnenolone & NeuroProtection Complex provides the following **scientifically validated** nutrients to provide broad-spectrum neurological support:

- **Uridine-5'-monophosphate (UMP)** is a phosphatide building block of RNA-DNA that is critical to optimal brain function and the health of neuronal cell membranes. Naturally found in the milk of nursing mothers, UMP is essential not only for the growth and development of infant brains, but also for healthy cognitive function in aging adults.
- **Sharp-PS® GOLD**, a rich **phosphatidylserine** compound bound to **DHA**, promotes already-normal neuronal cell membrane function and structure.
- **Alpha-glyceryl phosphoryl choline (A-GPC)** boosts acetylcholine, a critical neurotransmitter that declines with age.
- **Vinpocetine** enhances circulation and oxygenation to brain cells, improves neural electrical conductivity, and protects against neuron-destroying excitotoxicity.
- **Phospholipid-grape seed extract** bound together results in a compound that is better absorbed into the bloodstream where it improves blood vessel tone and elasticity, thus enhancing blood circulation and oxygen flow to the brain.
- **Wild blueberry extract** protects against free-radical damage in the brain and helps maintain fluid balances already within the normal range.
- **Sensoril® ashwagandha extract** helps alleviate mental fatigue by inhibiting an enzyme (acetylcholinesterase) that degrades acetylcholine in the aging brain.
- **Proprietary NeuroProtection Complex Blend** contains standardized extracts of **hops**, **ginger**, and **rosemary** — proven to help with inflammation.
- **Pregnenolone** is a hormone that may be especially beneficial to the brain.

The retail price for 90 softgels of Cognitex (with or without pregnenolone) is \$74 (item #00922) and \$72 (item #00921), respectively. If a member orders four bottles of either version, the price per bottle is reduced to just **\$49.95** and **\$48**, respectively.

Caution: Cognitex is also available without pregnenolone for those with existing steroid hormone-sensitive cancer.

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Contains fish (wild herring, blue whiting), soybeans, and rice.

FIGHT BACK AGAINST BRAIN AGING WITH COGNITEX

Just three softgels of Cognitex provide the following nutrients:

Alpha-Glyceryl Phosphoryl Choline (A-GPC)	600 mg
Phosphatidylserine-DHA (PS-DHA) [Sharp-PS® GOLD Conjugated Phosphatidylserine-DHA]	100 mg
Pregnenolone	50 mg
Vinpocetine	20 mg
Phospholipid-Grape Seed Extract	150 mg
Wild Blueberry Extract (<i>Vaccinium angustifolium</i>)	150 mg
Sensoril® Ashwagandha Extract (<i>Withania somnifera</i>)	125 mg
Uridine-5'-Monophosphate (disodium)	50 mg
Proprietary NeuroProtection Complex Blend Perluxan® Hops Extract (<i>Humulus lupulus</i>) Ginger (<i>Zingiber officinale</i>) Extract Rosemary (<i>Rosmarinus officinalis</i>) Extract	125 mg



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



WHAT'S INSIDE

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WHAT'S MISSING FROM VEGETABLE SOUPS? (Page 7)

Most popular “vegetable” soups are packed with cheap fillers like corn, potatoes, and rice. Find out about new low-calorie soups rich in **cruciferous vegetables**—with no glucose-spiking starches.



HARVARD STUDY CONFIRMS SAME's ANTIDEPRESSANT EFFECTS (Page 26)

A landmark clinical study funded by the National Institute of Mental Health confirms that *S-adenosylmethionone* or **SAMe** is a powerful antidepressant when combined with SSRIs.



MORE EVIDENCE OF DHEA'S ANTI-AGING POWER (Page 38)

Almost 30 years after **Life Extension**® introduced **DHEA** to the American public, new research keeps emerging to validate its ability to combat age-related disease.



VITAL IMPORTANCE OF BONE HEALTH (Page 52)

In his new book, *Forever Young*, Dr. Nicholas Perricone explains the link between bone health, longevity, and degenerative disease, plus ways to maintain bone mass as you age.



PROTECT AGAINST TODAY'S LIVER DISEASE EPIDEMIC (Page 64)

Roughly **one in three** Americans has a silent liver disease that can progress to full-blown liver failure. Find out the facts, along with seven interventions to protect liver health.



MAINSTREAM MAGAZINES ARE HAZARDOUS TO YOUR HEALTH (Page 76)

In this exposé, we show how the media irresponsibly publicized results of an egregiously flawed homocysteine study and how this will result in countless numbers of future heart attacks.