

\$4.50

THE MIRACLE OF OPC-165™

Another in the Life Sources' Client Education Series

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The Health Benefits of Life Sources' OPC-165™

After 50 years of research regarding the health benefits of OPC's (called Pycnogenol® by the original researcher, Dr. Jacques Masquelier) any discussion of this substance and its significant health benefits will sound exaggerated. Following is a brief list of the health benefits of OPC's (oligomeric proanthocyanidin).

- Acts as a superior antioxidant, protecting cells in the body against free radical destruction of cells.
- Lowers LDL cholesterol levels and reduces chemical alteration of LDL's, thus reducing the risk of cardiovascular disease.
- Reduces platelet aggregation, thus reducing the risk of atherosclerosis.
- Increases the strength and elasticity of blood vessels, protecting against rupture, leakage and degeneration.
- Enhances the ability of collagen to repair itself, thereby protecting against age-related and degenerative processes.
- Inhibits swelling (edema) and inflammation.
- Relieves functional problems of varicose veins.
- Reduces discomfort associated with PMS and menopause.
- Reduces tendency toward diabetic retinopathy.
- Improves skin health by reducing damage, increasing nutrient supply and improving elasticity.
- Reduces the effects of allergies.
- Improves joint flexibility.
- Reduces the risk of more than 80 radical related diseases.
- Reduces bruising.

- Treats chronic venous insufficiency and reduces risk of phlebitis.
- Improves skin elasticity and smoothness.
- Effective against psoriasis and protects against sun damage.
- Effective in the treatment of ADD/ADHD.
- Aids in reducing MS exacerbations.
- Has been shown effective in Parkinson's and Alzheimer's.
- Protects against viral infections.

We told you that these benefits would sound exaggerated and implausible but those who have tried OPC's will never deny their importance. So much research is yet to be done on the effects of OPC's but we present the following information for your edification and can only suggest you try it yourself.

Molecular Structure

Proanthocyanidins are naturally occurring plant metabolites widely available in fruits, vegetables, nuts, seeds, flowers, and bark.² Other plant sources of proanthocyanidins include wine, cranberries, and the leaves of bilberry, birch, ginkgo, and hawthorne. Also known as procyanidins, these substances are the main precursors of the blue-violet and red pigments in plants.

These compounds are part of a specific group of polyphenolic compounds - the flavonoids ([Table 1](#)).³ Flavonoids are further categorized by subgroups. Proanthocyanidins belong to the category known as condensed tannins, one of the two main categories of plant tannins ([Table 2](#)).³ Tannins are highly hydroxylated structures that can form insoluble complexes with carbohydrates and protein, a measure of their astringency, based on their ability to cause precipitation of salivary proteins.³ The polyphenolics, including proantho-cyanidins, form a considerable portion of the tannins found in wine, and in particular contribute heavily to the color and flavor of red wines.

Proanthocyanidins are high-molecular-weight polymers comprised of the monomeric unit flavan-3-ol ((+)catechin and (-) epicatechin). Oxidative condensation occurs between carbon C-4 of the heterocycle and carbons C-6 or C-8 of the attached A and B rings ([Figure 1](#)).³ The procyanidins B1-B4, characterized by the C4-C8 linkage, are the most common dimers, occasionally accompanied by corresponding C4-C6 linked isomers (B5-B8) ([Figure 2](#)).⁴

At a symposium entitled "Free Radicals in Biotechnology and Medicine" held in London in 1990, it was reported that esterification of (-)-epicatechin and procyanidin B2 by gallic acid increases their free radical scavenging ability. Information was also introduced revealing the dimeric proanthocyanidins having the C4-C8 linkage have greater free radical scavenging activity than the C4-C6 linkage, and that these gallate esters are only found in the grape seed extract form.

Grape seed extract contains OPCs made up of dimers or trimers of (+)-catechin and (-)-epicatechin.^{4,6} The procyanidin dimers are comprised of procyanidins B1, B2, B3, B4, B5, B6, B7, and B8. There are six procyanidin trimers which include procyanidin C1 and C2. Furthermore, several gallolyl procyanidins, which are most commonly the gallate esters of the dimeric procyanidins, and some free gallic acid are present.^{4,5} Tetramers or greater of these flavonols would be known as polymeric proanthocyanidins and the astringency of the molecule would increase accordingly. Therefore, oligomeric proanthocyanidins are less astringent, bind less strongly to proteins, and are more soluble and mobile in the body.⁵

Biological Properties

The biological properties of flavonoids, including proanthocyanidins, have been extensively reviewed.^{2,7-9} **In addition to their free radical scavenging and antioxidant activity,^{1,8,10,11} proanthocyanidins have been reported to have antibacterial, antiviral, anticarcinogenic, anti-inflammatory, anti-allergic, and vasodilatory actions.^{2,12} Proanthocyanidins have also been shown to inhibit lipid peroxidation, platelet aggregation, capillary permeability and fragility, and to affect enzyme systems** including phospholipase A2, cyclooxygenase, and lipoxygenase.^{1,2,12,13}

The free radical scavenging abilities of proanthocyanidins have been well documented and command the most attention.^{1,2,12,14} In vivo studies have shown grape seed proanthocyanidin extract is a better free radical scavenger and inhibitor of oxidative tissue damage than vitamin C, vitamin E succinate, vitamin C and vitamin E succinate combined, and beta carotene.¹² Moreover, in vitro experimental results have demonstrated proanthocyanidins have specificity for the hydroxyl radical^{1,2} in addition to having the ability to non-competitively inhibit the activity of xanthine oxidase, a major generator of free radicals,^{1,9,14} elastase, collagenase, hyaluronidase, and beta-glucuronidase.⁹

OPCs have also demonstrated preferential binding to areas characterized by a high content of glycosaminoglycans (epidermis, capillary wall, gastrointestinal mucosa, etc.).

This feature makes them useful for decreasing vascular permeability and enhancing capillary strength, vascular function, and peripheral circulation.¹¹³

Therapeutic Applications

Free radical damage has been strongly associated with virtually every chronic degenerative disease, including cardiovascular disease, arthritis, and cancer. Free radicals are highly reactive and cause tissue damage by reacting with polyunsaturated fatty acids found in cellular membranes, nucleotides in DNA, and sulfhydryl bonds in proteins. Free radicals may originate endogenously through normal metabolism and exogenously from polluted air, solvent-laden water, pesticide-laced food, or radiation exposure.

Clearly, due to their antioxidant activity, the therapeutic potential of proanthocyanidins is quite broad. In Europe, proanthocyanidins are used mainly for the treatment of vascular disorders such as venous insufficiency, varicose veins, and microvascular problems including capillary fragility and retinopathies.¹ In fact, proanthocyanidins are the active ingredient in a proprietary pharmaceutical product sold in France (Endotelon) used primarily for microcirculatory disorders. The main features of proanthocyanidins that comprise the rationale for use in vascular disorders have been demonstrated experimentally:¹

- Specificity for the hydroxyl free radical
- Traps lipid peroxides and free radicals
- Markedly delays the onset of lipid peroxidation
- Chelates to free iron molecules, so as to inhibit iron-induced lipid peroxidation
- Non-competitively inhibiting xanthine oxidase, a major generator of free radicals
- Inhibits hyaluronidase, elastase and collagenase, which can degrade connective tissue structures and lead to increased permeability

Proanthocyanidins have garnered recent attention in helping to explain the "French Paradox," the observation in France that high intake of dietary fats does not necessarily lead to high rates of atherosclerosis and coronary heart disease. When this paradox first

came to light, research focused on the consumption of alcohol in the form of red wine as the preventive factor, but these results were equivocal.⁸ Further research revealed that

phenolic substances in red wine, including proanthocyanidins, had potent antioxidant properties, reducing the oxidation of human LDL in vitro, as well as inhibiting cyclooxygenase and lipoxygenase of platelets and macrophages in vivo, further reducing thrombotic predisposition.⁸

The 1998 Tufts University, "Dietary Antioxidant and Human Health Conference," highlighted the results of new research on proanthocyanidins and has been the most comprehensive scientific review of polyphenols in the United States to date. At this conference, Dr. Morazzoni, scientific director of Indena S.p.A., reviewed epidemiological studies that suggested grape polyphenols, present in red wine among other sources, could prevent the development of chronic vascular disease such as atherosclerosis. His conclusion was, "Grape procyanidins are a viable and clinically-proven, bio-active antioxidant for the prevention of cardiovascular diseases."

Dr. Kendall, from the University of Birmingham in England, also introduced results from his clinical research using standardized grape seed extract. His study demonstrated measurable changes in serum antioxidant activity in the patients receiving the extract, leading him to conclude antioxidants may play a role in sudden death prevention, referring to the fact that for many patients with coronary artery disease, sudden death may be the first and only indication of the disease.¹⁵

Other noteworthy research in this area, almost exclusively conducted in Europe, includes:

1. Oral administration of procyanidins from grape seed produced a hypo-cholesterolemic effect in a high-cholesterol animal feed model. Specifically it prevented an increase in total and LDL plasma cholesterol and a decrease in HDL.¹⁶
2. In a different hypercholesterolemic model, OPCs significantly lowered the amounts of cholesterol bound to aortic elastin compared to controls.¹⁷
3. Oral administration of OPCs in an experimental model effectively increased natural killer cell cytotoxicity and modulated ex vivo levels of interleukin-1, interleukin-6, and interleukin-10 in immune-compromised animals.¹⁸
4. OPCs from grape seed demonstrated in vitro antimutagenic activity.¹⁹
5. In a double-blind study, 71 patients with peripheral venous insufficiency received 300 mg OPCs from grape seed per day. A significant reduction in functional symptomatology was observed in 75 percent of the treated patients compared to 41 percent of the patients given a placebo.²⁰
6. Measurements confirmed that a single administration of 150 mg OPCs increased venous tone in patients with widespread varicose veins.²¹
7. In a double-blind clinical trial, a group of elderly patients with either spontaneous or drug-induced low capillary resistance were treated with 100-150 mg OPCs from grape seed extract per day or placebo. Fifty-three percent of patients in the treated group demonstrated noticeable improvement in capillary resistance after approximately two

weeks. All patients in this group reached the maximum attainable result after three weeks.²²

8. In an open trial, 147 retinopathy patients received 100 mg OPCs from grape seed per day. The OPCs successfully treated exudations secondary to hypoxia of a diabetic, inflammatory, and arteriosclerotic nature.²³

9. In a placebo-controlled clinical trial of 63 female breast cancer patients, post-surgical edema of the upper extremities was tested using 300 mg per day OPCs in the treated group for six months. At six months the OPC-treated group's functional score was significantly improved. In particular, there was a disappearance of pain in 59 percent of the treated patients compared to 13 percent taking the placebo.²⁴

THE HISTORY AND DISCOVERY OF OPC's

In 1947 the renowned French chemist, Jacques Masquelier chanced upon the journals of the explorer Jacques Cartier in which Cartier related how he and his crew were marooned in the St. Lawrence River by the early arrival of winter 1595. Being unprepared for the severe winter of Quebec, their food quickly ran out and there was an outbreak of scurvy that was killing his crew. A local Indian chief told Cartier that an infusion made from the bark of a pine tree would cure his crew. He tried it and recorded in his journal that his crew rapidly recovered. The story set Dr. Masquelier on the journey to find what could have been in this concoction. He knew that there could not have been enough vitamin C in the bark so he looked for something else. What he found was a mixture of bioflavonoids, including catechins and flavons, but with a particularly potent element called proanthocyanidin.

He isolated the first OPC from the red skin of the peanut and later discovered that virtually all plants, red wine and the peanut kernel itself contain oligomeric proanthocyanidins.

He coined the word *Pycnogenol* (from the Greek *pycno* meaning to condense, *gen* meaning to generate, and *ol* from the chemical name) to describe the mixture and began marketing it in Europe in the mid 1950's.

For 50 years research and human studies conducted through scientific institutes, hospitals and clinics by dietitians and specialists has documented the positive results obtained with OPC's. Still, the information remains new to many, including health professionals. While the pace of antioxidant research is progressing, it hasn't been an

easy accomplishment. In the 1970's, whenever the health benefits of antioxidants were discussed, medical professionals would scoff at the idea that so many conditions could be alleviated or prevented with antioxidants. The health community did not understand how free radicals attack the body and could be the cause of over 80 diseases. Nor did they understand how antioxidant nutrients protected against free-radical damage. Without this information, it was impossible for them to understand how antioxidants protected us from so many different diseases. Thus the typical reaction was disbelief and ridicule.

Fortunately, through the years many research reports appeared in medical and scientific journals. Now cardiologists, oncologists and many other medical specialists and health professionals understand how one group of nutrients can protect us against so many different and seemingly unrelated diseases.

Interestingly, in a recent AMA survey, over 70% of practicing cardiologists admitted taking antioxidants but *did not recommend them to their patients.*

HOW OPC's WORK

OPC's are especially good at neutralizing the hydroxyl radical, the superoxide radical, singlet oxygen, and the dangerous chemical peroxynitrate. What makes peroxynitrate so dangerous is that it reacts with anything; fats, proteins, DNA, etc.

Excessive nitric oxide production is associated with arthritis, diabetes, stroke, septic shock, chronic inflammation and atherosclerosis. The damage it does can easily lead to gene mutations, which replicate themselves as the beginnings of cancer.

The good news is that OPC's are exceptional at neutralizing peroxynitrate. It also reduces the amount of superoxide available that makes peroxynitrate and helps to regulate nitric oxide production so it remains in balance. That means your immune system works better, your joints hurt less and your blood flows better, all because of one single substance. Other antioxidants may help, but researchers have noticed such broad based activities are *only* available in OPC's.

Researchers discovered that even when the immune system was barely working, OPC's brought it back. Research in this direction may be very significant for those interested in autoimmune diseases.

THE SUPERNUTRIENT THAT FIGHTS AGING AND DISEASE

At an annual meeting of scientists involved in OPC research, several studies were presented to substantiate claims that OPC's combat aging and heart disease. David F. Fitzpatrick, associate professor of pharmacology and therapeutics at the University South Florida College of Medicine in Tampa, reported that the supplement can prevent

damage to blood vessels and a decrease in blood clotting, both of which are linked to heart disease. Another study found that OPC's unique combination of natural vitamin-like compounds known as flavonoids, inhibit excessive metabolizing of nitric oxide, a process that has been linked to inflammation, arthritis and Alzheimer's. What's more, research conducted on mice at the University of Arizona at Tucson showed that OPC's stimulate immune activity and delays such age-related changes as hair loss and skin damage. **Studies have shown that OPC's are non-toxic and have no known drug interactions.**

Since OPC is an antioxidant, research shows it fights cholesterol by discouraging deposits from forming on artery walls. OPC's anti-inflammatory activity may help relieve inflammatory conditions, including arthritis, allergies, bronchitis and asthma. OPC's also correct dangerous blood clotting tendencies that trigger heart attacks and strokes. Dr. Ronald Watson, a researcher at the University of Arizona, recently confirmed that OPC's normalize platelet aggregation, a disorder that in which the "sticky" platelets tend to form blood clots. He showed that when people smoked, their platelets clump together in a tendency to form clots. But, about 20 minutes after taking OPC's, their platelets returned to normal.

A surprising use of OPC's has arisen among people suffering from a bewildering disorder in concentration and attention known as Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD). It is said to have been discovered quite by accident when people with ADD took OPC for another purpose, such as allergies, they noticed an improvement in concentration and mental focus, classic symptoms of ADD. Others started using it. Word spread and the ADD remedy has achieved high visibility.

The use of OPC's for this purpose has not yet been widely studied but a preliminary study by Marion Sigurdson, Ph.D., a psychologist in Tulsa, Oklahoma, who specializes in treating ADD, has found striking benefits from OPC's.

Her protocol includes the same blend utilized by Life Sources, Inc. Dr. Sigurdson found that it worked just as well as the commonly prescribed stimulant medications, including Ritalin, on 30 children and adults diagnosed with ADD.

The subjects were given a battery of computerized and behavior tests to judge their attention, concentration and other important factors in ADD under various circumstances: when they were either on or off their usual stimulant medications, or on OPC's alone. When they were off their medications, their ADD deteriorated. On their medications, they were much improved. But when they took daily doses of the OPC mixture, their scores and behavior were just as improved as when they took stimulant drugs.

In other words, OPC's equaled the drugs in most subjects. The subjects also had decreased heart beat, disappearance of tennis elbow, relief of acne and improved sleep and mood.

How could such an ordinary combination of common grape seed and pine bark have such a profound influence on the brain comparable to that of a powerful pharmaceutical drug? According to Marcia Zimmerman, a California consultant who specializes in research on OPC's, there is some underpinning in the scientific literature, suggesting possible mechanisms of action. A fascinating way OPC's might affect brain cells, as shown by studies in cell cultures, she says, is by **regulating enzymes that help control two crucial neurotransmitters; dopamine and norepinephrine, chemicals that carry messages among brain cells and are involved in "excitatory" responses.** OPC's also help deliver nutrients to the brain such as zinc, manganese, selenium and copper, that are helpful in ADHD, according to recent research. Additionally, OPC's remarkable antioxidant activity may help stabilize brain cells and improve their functioning by neutralizing damage from free radicals.

Medical studies conducted at the University of Illinois demonstrate that OPC's antioxidant and anti-inflammatory effects have the ability to inhibit all three phases of the cancer process: initiation, promotion, and progression.

Scientists at the University of Arizona discovered that OPC's help build resistance to cancer by as much as 40 to 50 percent by boosting the body's first line of cancer defense, known as natural killer cells (NK cells).

Dr. Packer has focused much of his attention on the relationship between OPC's and nitrous oxide (NO), a free radical produced in the body. Within the body, NO is a double edged immunity sword, made by the body to regulate the muscle tone of blood vessels and employed as a weapon to kill pathogens, the micro-organisms that cause disease. The body's overproduction of NO, on the other hand, can result in chronic, damaging inflammation, the root cause of 1 in 3 cancers. "OPC's says Dr. Packer, have a biphasic effect on NO. It both quenches NO when this substance threatens to become a damaging free radical and it inhibits a gene that might otherwise foster enzymes that can lead to NO overproduction."

Preliminary studies have also shown that OPC's are also effective against Alzheimer's disease. Cell culture studies have shown that OPC's can inhibit beta-amyloid accumulation also called amyloid-beta-protein, a peptide that accumulates in the form of plaques in the central nervous system. These plaques are a characteristic feature of Alzheimer's disease. Beta-amyloid is directly toxic to nerve cells causing a breaking of membranes.

Dr. D. Schubert of the Salk Institute of Biological Sciences of San Diego accumulated brain cell cultures taken from Alzheimer's patients to which beta-amyloid has been added. In those cultures, OPC's prevented the toxic protein present in Alzheimer's patients from accumulating.

Somewhat more impressive are reports from patients having Newman-Pick's disease, an ailment closely related to Alzheimer's. These patients reported significant improvement following OPC supplementation.

TRIPLE ACTION ANTIOXIDANT:

1. Reduces free-radical-caused tissue damage many times more effectively than vitamin E, potentiates the health-giving effects of vitamin C and protects brain and nerve tissue with its nearly unique ability to penetrate the blood-brain barrier.

It reduces inflammation and improves circulation, both relieving the distresses of arthritis, diabetes and stroke and promoting prevention of cardiovascular disease and cancer.

2. Its ability to bond to collagen promotes renewed youthfulness, flexibility and body integrity allowing it to function as an "oral cosmetic."

As the name suggests, super-antioxidants are the next generation of weapon in the war against the biochemical process of oxidation, which has been implicated in everything from premature wrinkles to DNA damage, and from chronic illness to heart disease. But of these super-antioxidant complexes, one compound in particular stands far and above the rest: the oligomeric proanthocyanidin, or OPC, a highly refined natural chemical derived from the seeds of grapes. Because of its structure, one OPC molecule can neutralize several free radicals at once, while each molecule of vitamins C and E can handle only one at a time. Quantitatively, one OPC molecule is approximately 20 times more powerful than vitamin C, and a whopping 50 times more potent than vitamin E.

FREE RADICALS

The first description of the free radical theory was noted by Dr. Denham Harman, who declared that a 'single common process, modifiable by genetic and environmental factors, was responsible for aging and the death of all living things.' He identified this process remarking, 'Aging is caused by free radical reactions, which may be caused by the environment, from disease and intrinsic reactions within the aging process.' Dr. Harman's conclusion, written more than forty years ago, sums up much of what we finally agree upon today. He may well be called the Father of Anti-Aging medicine.

DOSAGE INFORMATION

Most individuals take 1 mg per pound of body weight. For example, a 165-pound person would take 165 mg per day. It is however, common to take more since research shows that even dosages as high as 30,000 mgs. per day show no signs of toxicity or side effects.

We do recommend that individuals use a saturation dosage as follows:

1. Begin with 1-2 capsules 3 times a day and drink plenty of pure water (**magnetized water is best**) to help flush toxins from the system. If you experience any signs of DETOXIFICATION (often referred to as a Herxheimer's or health reaction) reduce your dosage and slow the saturation buildup.

Maintain the saturation dosage for 30 days. Remain on saturation level until you reach your desired health level.

2. If your progress is not satisfactory after 30 days of saturation, increase your dose by 2X and continue until you reach your goal.
3. You may finally reduce your dosage to a maintenance level when you are satisfied with your health. Your maintenance level is best determined by yourself or your health consultant, but should not go below the level that allows symptoms to return.

On February 17, 1998, a U.S. Patent (Patent # 5,719,178) was awarded Dr. Masquelier for his discovery of Pycnogenol as a treatment for ADD/ADHD and another (Patent # 4,698,360) states "The invention provides a method of preventing and fighting the harmful biological effects of free radicals in the organism of warm blooded animals and more especially human beings, namely cerebral involution, hypoxia following atherosclerosis, cardiac or cerebral infarction, tumor promotion, inflammation, ischemia, alterations of the synovial liquid, collagen degradation, among others. The method consists of administering to said animals and especially to human beings an amount, efficient against said effects, of a plant extract with a proanthocyanidins content which has a radical scavenger effect, the extract being in the form of a medicament and coming more especially from the bark of conifers."

To avoid conflicts of patent rights, many companies simply bottle grape seed extract or pine bark and market it as such often at huge mark ups. This ignores the volumes of research done by Dr. Masquelier and scientists from around the world.

Do not be fooled! Be sure you take a product that contains at least two (and preferably three) of the substances in the *Life Sources' OPC-165™*. **Why pay more for more – “higher concentration”?** Life Sources, Inc. has taken the process a step further in that we include 75 mg. of pine bark, 75 mg. of grape seed extract and 15 mg. of quercetin and combined them into a single capsule at one third the price of others available.

Conclusion

Oligomeric proanthocyanidin complexes are primarily known for their free radical scavenging and antioxidant activity. However, these compounds have also been reported to demonstrate antibacterial, antiviral, anticarcinogenic, anti-inflammatory, anti-allergic and vasodilatory actions. In addition, OPCs have been reported to inhibit lipid peroxidation, platelet aggregation, capillary permeability and fragility, and to affect enzyme systems including phospholipase A2, cyclooxygenase, and lipoxygenase. These varied biological activities have resulted in the phytopharmaceutical application of OPCs in reduction of edema, increased peripheral circulation, improvement in vision, treatment of diabetic retinopathy, prevention of cardiovascular disease, treatment of hypercholesterolemia, stabilization of connective tissue tone, reduced adverse allergic and inflammatory responses, and enhanced immune function and wound healing. Additional clinical research is warranted.

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Company Profile

Life Sources is a Nevada Corporation with order fulfillment located in Fair Oaks, California and is a member of the NNFA, National Health Federation, Sacramento Better Business Bureau and the Citrus Heights, California Chamber of Commerce.

The President and Founder is Andrea McCreery, PhD. Dr. McCreery is currently developing several new proprietary products to add to the Life Sources anti-aging and chronic illness system.

Based upon clinical observations, Dr. McCreery has developed several innovative products designed to slow the aging process and naturally combat chronic illnesses. Nutritional counseling is effective with ADD/ADHD, fibromyalgia, chronic fatigue syndrome, irritable bowel syndrome, weight loss, arthritis, candidiasis and more.

Life Sources specializes in Vital Hematology as a means of observing cell wall deficient forms in the living blood of clients to recommend nutritional interventions to reverse risk factors for chronic disease and nutritional deficiencies. (If an individual is interested in scheduling a consultation, please e-mail for details and fee schedules to clinic@life-sources.com or call the clinic at 916-536-9930.

The Life Sources clinic is located at 5006 Sunrise Blvd., Suite 101, Fair Oaks, California 95628. Initial client visit includes the observation of living blood (with a videotape of the observation included), blood typing and nutritional counseling for chronic illness and potential risk factors.

Individuals interested in scheduling a seminar or group demonstration of Vital Hematology should address e-mail to info@life-sources.com.

Dr. McCreery is available for demonstrations to groups, health food stores and/or practices wishing to offer nutritional interventions to their clients and practice.

Life Sources is dedicated to quality and quantity of life and the eventual reduction of health care costs in the U.S. Client support is appreciated.