

LIFETIME

Analysis of the ingredients in this formula reveals that in our opinion it may be the most advanced and complete broad spectrum multiple vitamin/mineral formula ever created. Special emphasis has been placed on those nutrients which scientific research has shown may be effective in assisting the body to lower blood cholesterol, normalize blood pressure, and reduce the tendency of red blood cells and platelets to stick and clot. It also contains other nutrients which may assist the body in preventing and even reversing damage which creates atherosclerotic plaque. Since these factors are the leading cause of heart attacks and strokes, the nation's number one killer, the importance of such a formula is obvious. In addition, there has also been included an abundance of nutrients which many scientist believe may play an important role in assisting the body to actually extend the life span well beyond the average years in good health. This formula was created by Dr. Robert Preston for his own use and is the one he takes every day as his maintenance supplement.

12 Tablets contain the following nutrient values:

INGREDIENTS

Vitamin A	20,000	IU
Beta Carotene	20,000	IU
Vitamin D	400	IU
Vitamin E	650	IU
Thiamin (B-1)	200	mg.
Riboflavin (B-2)	100	mg.
Niacin (B-3)	75	mg.
Niacinamide	25	mg.
Pantothenic Acid (B-5)	500	mg.
Pyridoxine (B-6)	200	mg.
Cobalamin (B-12)	250	mcg.
Folic Acid	400	mcg.
Biotin	100	mcg.
Para Amino Benzoic Acid	400	mg.
Vitamin C	2,500	mg.
Ascorbyl Palmitate	500	mg.
Zinc	30	mg.
72 Trace Minerals	100	mg.
Chondroitin Sulphate A	50	mg.
Mucopolysaccharides	50	mg.
Marine Lipids	500	mg.
Max EPA	500	mg.
Bromelain	200	mg.
CoEnzyme Q-10	10	mg.
N Dimethylglycine	30	mg.
L-Carnitine	200	mg.
L-Cysteine	750	mg.
L-Glutamine	150	mg.
L-Lysine	150	mg.
L-Methionine	200	mg.
L-Taurine	200	mg.
L-Tyrosine	200	mg.
Bioflavonoids.....	300	mg.
Choline	750	mg.
Inositol	100	mg.

Calcium	300	mg.
Chromium	200	mcg.
Copper	2	mg.
Iodine	125	mcg.
Iron	10	mg.
Magnesium	300	mg.
Manganese	10	mg.
Potassium.....	300	mg.
Selenium	250	mcg.
Adrenal Substance	50	mg.
Heart Substance	50	mg.
Spleen Substance	50	mg.
Thymus Substance	50	mg.
Cayenne	50	mg.
Blue Vervain	25	mg.
Butchers Broom	25	mg.
Dong Quai	50	mg.
Garlic	200	mg.
Ginger Root	50	mg.
Hawthorne Berry	25	mg.

In our opinion this formula appears to be an ideal daily nutritional maintenance supplement for people of all ages who are seeking excellent health and longevity. The Institute has published a "Lifetime" 90-minute video and cassette citing 102 scientific references which reviews some of the important research done on the nutrients used in this formula—research which indicates how *each* of these nutrients may play a major role in assisting the body in creating a healthy heart and vascular system, even after years of neglect. Imagine what might happen when all of these nutrients are used in one carefully balanced formula. Both the cassette and the video are available from the Institute to Members only at a nominal cost.

SUGGESTED USE

The Institute offers the following suggestions in the use of this formula. Full strength would depend upon body weight as per the following *150 pounds*: 2 tablets per meal; *175 pounds*: 3 tablets per meal; *200 pounds*: 4 tablets per meal. We suggest beginning with 1 tablet per meal for a week, then increasing to 2 tablets per meal the second week, 3 the third week and 4 the fourth week or until you have reached what would be full strength according to your body weight. Our suggestion is that you remain at full strength for one full month for each decade of life you have lived. Then reduce by one tablet per meal and maintain at that level as maintenance, or take as directed by your physician.

Vitality Product Code 1006 (360 tabs)

Vitality Product Code 1007 (180 tabs)

www.vitality-corp.com

It is certainly no secret that coronary artery disease, which leads to heart attacks, is the number-one killer in America today. A wide range of nutrients have been studied in connection with this condition. Amazingly, a rather large number of nutrients have been found to create a significant improvement in cardiovascular health. It is our opinion that by gathering virtually all of these nutrients together in one product, it has created the most advanced nutritional formula for life extension, and optimum cardiovascular health yet developed. We shall examine how these nutrients can promote healthy hearts and arteries in connection with four different factors. **(1) Lowering High Cholesterol; (2) Eliminating Plaque and Atherosclerosis; (3) Preventing Clots and Thinning Blood; and (4) Supporting the Cardiovascular System.** Our review of the scientific research which has been done on the ingredients in this product reveals the following results were obtained with these nutrients in regard to the above-mentioned factors.

1. LOWERING HIGH CHOLESTEROL

As almost everyone knows these days, high levels of fat in the blood (as measured by triglycerides and cholesterol) is one of the major indicators of cardiovascular problems. However, what most people do not know is that **a large number of nutrients have been scientifically shown to lower cholesterol to normal levels.** These nutrients all play a natural role in the body's handling of fats. However, due to a variety of reasons ranging from genetic differences and unbalanced diets to growing older, some people need more of these nutrients than they can get from their food. Supplementing with these nutrients has often produced amazing results.

MARINE LIPIDS

One of the most exciting development is the recent discovery that nutrients found in certain fish oils can have a major benefit in lowering cholesterol.

These nutrients are known as Omega 3 fatty acids. Two of these, EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid) have proven to be especially beneficial. It was discovered that Greenland Eskimos and Japanese fishing village residents had very low levels of triglycerides and cholesterol. **They almost never had heart attacks.** Their blood contained high amounts of the EPA and DHA from their diet, high in cold-water fish. Scientists found these fatty acids were very lipotropic—that is, they had the ability to dissolve and disperse cholesterol. Especially the dangerous LDL form, while protecting the beneficial HDL form of cholesterol. Several groups of doctors have given these marine lipids to groups of individuals with high cholesterol, and in each case there was a very significant improvement. At the University of Oregon, extensive studies have been going on for years with regard to marine lipids. Drs. Harris and Connors, along with other physicians, **have found that when marine lipids are given as a nutritional supplement on a daily basis, there is a beneficial decline in both triglycerides and the harmful and dangerous LDL cholesterol.**

Dr. Connor has commented, “The higher these levels (cholesterol and triglycerides) are when the fish oil program started, usually the greater the fall.”

VITAMINS TO LOWER CHOLESTEROL

One of the most discouraging things to heart patients is to cut out all of their favorite foods because they contain cholesterol, only to find out after months of dieting that their cholesterol had hardly declined. At the University of Illinois, Dr. F.A. Kummerow tested a large number of patients on cholesterol restricted diets. He found that **only 10% of the cholesterol in the blood is contributed by cholesterol in the diet.**³ A much more effective way to control cholesterol is to give supplements of nutrients which are required by the liver for proper metabolism of carbohydrates, fats, and cholesterol.

Among the most significant of these is a little-known B vitamin called inositol. Without sufficient quantities of inositol, the liver is unable to efficiently convert fats and carbohydrates to energy—thus they end up as fat in the blood. Drs. W.C. Felch and L.B. Dotti took a group of diabetic patients with elevated triglycerides and cholesterol levels and gave them inositol supplements. Within a few weeks these patients had their triglycerides and cholesterol return to normal.⁴ Reporting in the *American Heart Journal*, Drs. Leinwand and Moore described how they gave supplements of inositol to a group of heart patients with elevated cholesterol and triglyceride levels. **In a few weeks on inositol supplements, there was a substantial drop in these elevated levels** to normal ranges.⁵ Choline is another little-known B vitamin that works with inositol in the liver to control fat metabolism. Drs. Morrison and Gonzales gave supplements of choline to a group of 115 cardiovascular patients, and a placebo to a matched group of 115 others. There was a substantial decline in the level of triglycerides and cholesterol, but only in those receiving the choline. **However, most importantly, over the next three years there was a 60% decline in the death rate for those taking the choline—compared to the placebo group.**⁶ Scientists now know the importance of these vitamins to the liver in manufacturing lecithin—a very powerful fat-dissolving detergent which reduces blood fat levels. As far back as 1958, Dr. T.D. Labeski had demonstrated that by supplementing the diet with both choline and inositol, the blood level of lecithin would rise followed by a decline in triglycerides and cholesterol. **In just two months, patients who had just had heart attacks had their cholesterol and triglycerides brought to normal using only choline and inositol.**⁷

METHIONINE, VITAMIN B-6 AND MAGNESIUM

It is well known among scientists that methionine is essential to proper fat metabolism in the liver. One reason for this is that it is converted to choline and then lecithin. Drs. Mann and Andrus of Harvard University demonstrated the importance of methionine by feeding rhesus monkeys a diet that was complete in all respects except in the amino acid methionine. The monkeys soon developed high cholesterol and atherosclerosis.⁸ However, methionine cannot be adequately converted to choline or lecithin unless there is a sufficient amount of vitamin B-6. Research by

Dr. K. McCully at Harvard Medical School established that without adequate vitamin B-6, methionine would be converted to homocysteine. This is a powerful free radical which damages arterial walls, resulting in plaque formation.⁹ Many scientists feel that most Americans are very deficient in this important nutrient. This may be a major cause in the formation of atherosclerosis. However, the liver still cannot make lecithin unless there is also enough magnesium present. Magnesium is essential for the utilization of amino acids and the lowering of blood lipid levels. In 1963 Dr. A.J. Steiner discovered that patients low in magnesium had elevated cholesterol levels. Yet when they were given magnesium supplements, **within just one month many of these elevated cholesterol levels fell dramatically**. In 1984 Dr. W. H. Davis and associates gave magnesium supplements to a group of men with abnormally low levels of the protective HDL cholesterol. **Within weeks this magnesium supplement had elevated the protective HDL level.**¹¹

CALCIUM AND CHROMIUM

In 1972 Dr. M. L. Biambaum and associates gave a large group of patients with elevated serum (blood) cholesterol a daily supplement of calcium. After a year of calcium supplements **their serum cholesterol fell by an average of 25%.**¹² Chromium is another mineral which has shown the ability to lower serum cholesterol. In 1981 Drs. Railes and Albrink gave daily 200 mcg. supplements of chromium to patients with elevated serum triglycerides and cholesterol. Their elevated levels **soon returned to normal** along with an **increase in the beneficial and protective HDL cholesterol**, and an improvement in their tolerance to glucose.¹³

NIACIN AND VITAMIN C

In 1975 the Coronary Drug Project Research Group of the American Medical Association reported that one of the most effective agents for lowering cholesterol was the B vitamin niacin. They found that **it also reduced the rate of reoccurring heart attacks by 29%.**¹⁴ Dr. Grundy and associates reported the results of their research with niacin in 1981. They found **niacin produced a 22% reduction of serum cholesterol and a 52% reduction in triglycerides.**¹⁵ In 1976 Drs. Turly, West, and Horton demonstrated that when Vitamin C is present in the blood serum it stimulates the release and **activation of plasma lipoprotein lipase** which promotes the breakdown of serum triglycerides.¹⁶ Research in 1979 by Dr. Emil Ginter and associates has revealed that **a liver enzyme** which is responsible for the conversion of excess blood cholesterol to bile for elimination, **is vitamin C dependent.** Without adequate vitamin C in the liver, cholesterol soon accumulates in the blood.¹⁷ These discoveries explain why by 1970 three different research groups had found that the serum cholesterol level goes up and down with the intake of vitamin C.¹⁸ In 1971 Dr. C.R. Spittle, a Vitamin C researcher, wrote: "Atherosclerosis is a long-term deficiency of Vitamin C which permits cholesterol to build in the arterial system and results in changes in other fractions of fats."¹⁹ Nobel Prize winning scientists, Dr. Linus Pauling tells how these changes were reversed. "...a high level of vitamin C increases

the amount of high density and decreases the amount of low density lipoprotein cholesterol. **Both of these changes help to protect against cardiovascular disease.**"²⁰

GARLIC AND GINGER

Although revered by grandmothers from the "old country" for years, it was not until 1977 that Drs. Bordia, Josh, and Sanadhya scientifically demonstrated that daily garlic intake **lowers the harmful LDL cholesterol and triglycerides, while elevating the beneficial and protective HDL cholesterol.**²¹ In 1978 Dr. S. Gujaral and associates found that the old-fashioned herb **Ginger is very effective in lowering serum cholesterol** if taken on a daily basis.²²

L-CARNITINE

One of the most exciting discoveries in the area of improving cardiovascular health from a nutritional point of view is L-Carnitine. This protein structure is made from two amino acids—lysine and methionine. Dr. J. D. Hulse and associates studied L-Carnitine in 1978 and found that vitamin B-6 and Niacin were required in order to form it, as well as magnesium and vitamin C in large amounts.²³ The lack of vitamin C in scurvy results in high levels of blood fat, and this may be due to the body's inability to produce carnitine. However, Dr. P. R. Borum discovered in 1981 that not everyone has the same ability to manufacture this amino acid substance. He found that some individuals have such a limited ability to produce carnitine that this predisposes them to developing high blood fats and cardiovascular problems.²⁴ Carnitine is found in its largest quantities in the heart, liver, testes, and muscles. In the cells of these tissues it combines with free fatty acids to form fatty acyl carnitine. In 1983 Dr. Borum found that carnitine is absolutely essential for the transportation of fatty acids across the membrane and into the mitochondria. These are energy producing factories of the cell. There these fatty acids are oxidized (burned) to release energy.²⁵ As Dr. Hans Neiper has pointed out, the **heart muscle obtains more than half of its energy by burning fatty acids, while skeletal muscle depends almost entirely on glucose.**²⁶ **Thus, a deficiency of carnitine greatly reduces the primary source of energy for the heart.** Such a deficiency can rapidly lead to angina (chest pains) and cardiac insufficiency. In 1977 Dr. J. Bremer found that when carnitine was deficient in the heart, fatty acids began accumulating in heart cells, then the heart tissues and finally they backed into the blood. This raised the blood levels of triglycerides and cholesterol.²⁷ The following year Dr. J.D. Folts and team found that **when fatty acids remained in cardiac cells and tissues because of a lack of carnitine to transport it into the mitochondria, the fatty acids developed oxidative derivatives which became extremely damaging to the heart muscle cells.**²⁸ Dr. M. Baroldi, a pathologist who worked with famous heart surgeon Dr. Denton Cooley and the U.S. Army Pathological Institute in Washington, DC, has collected a large amount of evidence that shows **most heart attacks occur not because of blocked arteries, but because heart muscles have developed abnormal chemistry and die—thus leading to heart attack and death.**²⁹ Thus carnitine supplements which improve heart muscle cell chemistry would

seem to be a major step forward in reversing this degeneration and death of heart muscle cells, thus preventing heart attacks.

As far back as 1975 Drs. J. D. McGarry and W.D. Foster were giving cardiac patients supplements of carnitine. They found that **fat metabolism was increased and that triglycerides and cholesterol levels fell dramatically.**³⁰ The following year Dr. J. H. Thomsen and associates gave carnitine supplements to cardiac patients and found that **it improved the ability of the heart to withstand stress tests.**³¹ That same year Dr. Maebashi and team reported in the *Lancet* that 8 weeks of carnitine supplements dropped the triglyceride level of a cardiac patient from 840 to 186%.³² In 1982 Drs. Rossi and Siliprandi found that carnitine supplements significantly elevated the protective HDL level.³³ Dr. P. Pola and associate selected two groups of patients, one group with high triglycerides, and one with high cholesterol. They gave them supplements of carnitine for 40 days. **Both groups had dramatic declines in both their triglycerides and their cholesterol.**³⁴ The data presented here makes it obvious that carnitine is a nutrient which is very important in the body's ability to metabolize fats, particularly in the heart muscle cells. L-Carnitine is a very expensive supplement, and its inclusion in this formula at a clinically effective level of 750 mg. per day make this formula the most nutritionally supportive formula for healthy cardiovascular tissue yet developed.

NUTRIENTS WORKING TOGETHER

We have just reviewed the scientific evidence which shows that each of these nutrients is individually capable of helping the body raise the beneficial HDL and lower the triglycerides. These nutrients are: marine lipids, inositol, choline, methionine, vitamin B-6, magnesium, calcium, chromium, niacin, vitamin C, garlic, ginger, and L-carnitine. **All of these beneficial nutrients have been included in the "Lifetime" Formula at clinically effective levels.** In this way they can work synergistically together, supporting and reinforcing each other—thus greatly amplifying their powerful nutritional benefits.

2. ELIMINATING PLAQUE & ATHEROSCLEROSIS DANGEROUS FREE RADICALS

Most of the molecules in our body and natural foods are either electrically balanced or carry ionic charge which allows them to join constructively with other molecules. This is the basis for the biochemistry that makes life possible. However, most of the chemicals which are foreign to our body and our food readily break into molecules which carry **a dangerous and damaging electrical charge.** These molecules are called "**free radicals.**" Prior to the year 1900, the average American had very little exposure to chemicals in their food, water, or environment which would break into free radicals. Americans also had almost no heart attacks prior to 1900. Today there are **over 3,000 chemicals** being added to our food as flavors, colors, emulsifiers, extenders, preservatives, *etc.* **Each of these is a potential free radical.** Not to mention **chlorine and fluorine** which has been added to our water supply, both of which are

sources of powerful free radicals. In his book, *Coronaries—Cholesterol—Chlorine*, Dr. Joseph Price has pointed out the close relationship in the rise of chlorinated water to the rise in heart attacks.³⁵

NATURAL PROTECTION

People on a simple natural diet generally get all the nutrients they need to control their biochemistry and live long and fruitful lives. Their body is equipped with enough of a special group of enzymes to neutralize free radicals as they develop. However, on today's diet high in refined and processed foods, loaded with chemicals and depleted of many key nutrients, it is a different story. Free radicals released in the body at such a high rate, and at such an early age, the body's ability to control all of them is soon depleted, and much damage begins to occur.

HOW A PLAQUE FORMS

In 1973 Dr. Earl P. Benditt and associates at the University of Washington School of Medicine discovered how arterial plaques form. They found that when free radical molecules come in contact with cells that line the inside of the artery, they damage the cell wall. Later other free radicals enter through this damaged area to the inner parts of the cell where they cause additional damage. **Eventually the cell is so altered it becomes abnormal and begins to divide and multiply rapidly. Soon there is a bump on the arterial wall called a plaque.** These plaque cells are largely collagen which makes them very tough. As the inner cells of this plaque begin to grow old and degenerate, **they yield an above-average amount of cholesterol.** These cells also have **an abnormal energy metabolism.** Dr. Benditt and team found that these plaque cells are very similar to tumor cells. While this whole process has been going on, these plaque cells have been **releasing a prostaglandin called thromboxane or PG2. This causes fibers to form** over the top of the plaque, resulting in **red blood cells and platelets adhering to the plaque.**³⁶ Even 20 year old men were found to have thousands of tiny plaques forming in their arteries when autopsies were performed during the Vietnam war. Older people often have their arteries totally blocked by these tough, fibrous, cholesterol-laden plaques. This condition is known as *atherosclerosis*.

NUTRIENTS TO PREVENT ATHEROSCLEROSIS

Several nutrients have been found to be very effective at neutralizing free radicals before they can cause harm in the body. Supplements of these nutrients have been able to halt free radical activity and prevent plaque formation. The forthcoming research data will reveal the role of some of these nutrients in body chemistry that prevents atherosclerosis.

VITAMIN E

At the University of California, Davis, Dr. A.L. Tappel has established that as an oil-soluble vitamin, vitamin E becomes part of the lipid matrix in the cell wall, and prevents free radicals from burning holes in it.³⁷ Since the first step in the development of plaque and atherosclerosis is created by the free radical attack

of our arterial lining, vitamin E's prevention of this is very important to us. At the University of Puget Sound, Dr. J. Bland found that when exposed to free radicals of ultra violet light and air, the walls of red blood cells broke down. Within 13 hours 100% of the red blood cells had totally disintegrated. Yet when these same volunteers **supplemented their diet with Vitamin E, only 5% of their red blood cells had disintegrated after exposure to the same free radicals.**³⁸ It will be recalled that arterial plaque cells are developed after free radical attack and are very much like cancer cells. Dr. Denham Harman, University of Nebraska School of Medicine, conducted an experiment in which he exposed the skin of mice to cancer-causing chemicals. Then he fed them various nutrients to see **which ones offered the greatest protection against the development of abnormal cancer cells.** He found that vitamin C gave 32% protection, selenium 42%, but **vitamin E gave a whopping 63% protection.**³⁹ Vitamin E is also found in heavy concentration in the wall of the mitochondria where energy is manufactured in the cell.

Without adequate vitamin E, oxygen escapes during the energy-releasing process. This increases the body's need for oxygen. Drs. Houchin and Mattill were able to demonstrate this by measuring muscle tissue's oxygen requirement before and after supplementation with vitamin E. **They found that within 24 hours after vitamin E supplements, the oxygen requirement dropped by 60 to 71%. Imagine what this would mean to an oxygen-starved heart.**⁴⁰ In 1963 Dr. Boyd and co-workers took X-rays of the arteries of people with long standing atherosclerosis, before, during, and after supplementation with vitamin E. **The X-rays clearly showed the gradual clearing of calcium and the dilation of the arteries over a period of a few months.**⁴¹ In 1968 Dr. Kurt Haeger did a controlled double blind study of people with restricted blood flow due to narrowed atherosclerotic arteries. After a few months, those on the placebo showed a continued deterioration of their blood flow. Those on the vitamin E showed a dramatic increase in their blood flow as measured by objective scientific instruments.⁴² In 1980, Dr. J. L. Machlin established that a large amount of published and **confirmed scientific research had proven vitamin E supplements will definitely prevent and reverse atherosclerotic plaque, and even open up atherosclerotic narrowed arteries over a period of months.**⁴³

Rabbits are highly prone to develop high cholesterol and plaques when fed a fatty diet. However, Drs. Wilson, Middleton, and Sun found that when rabbits on this atherogenic diet were also given vitamin E supplements, **they were protected from free radical damage and did not develop atherosclerotic plaques.**⁴⁴ Drs. Cheraskin and Ringsdorf at the University of Alabama School of Medicine and Dentistry, studied a group of middle-aged male heart attack victims for a period of one year. They found that those in the group who had a below average intake of vitamin E had a deterioration of their condition comparable to what is considered average for their age and condition. However, those who were on vitamin E supplements, and had an average intake, **experienced a 30% reduction in the severity of their condition.**⁴⁵ From these studies we can easily conclude that vitamin E is very important in reversing

atherosclerotic plaque formation and in protecting our body from the free radical attack.

SELENIUM

Science has shown us that this little known element may very well be the most important mineral to the health of the heart and vascular system. A powerful free radical scavenger in its own right, it also serves as the heart of glutathione peroxidase, one of the two most important enzymes our body uses to control free radicals. Dr. J.T. Rotruck did a study on animal tissue levels of both selenium and the enzyme glutathione peroxidase. He found **the lower selenium levels were, the lower were the levels of this all-important enzyme.**⁴⁶ Dr. A.M. Novi has conducted many experiments which have shown that when selenium-activated glutathione is low, **free radical damage to the cell is massive,** and leads to the development of cancer cells—**such as those that make up plaque in the arteries.**⁴⁷

The impact of a lack of selenium on the blood vessels was first noticed among animals where it has been found to produce abnormalities in virtually every specie, from chicken and turkey, through swine, lambs, and cattle. It was estimated by the U.S. Dept. of Agriculture that American farmers lost over 100 million dollars in 1973 due to selenium deficiencies on the health of farm animals.⁴⁸ Drs. R. Schaamberger and C. Willis found that those between the ages of 55 and 64 living **in selenium rich areas were protected** with a heart disease rate of **67% BELOW** the national average, while those living **in selenium poor areas** had a heart disease rate of **22% ABOVE** the national average.⁴⁹

Dr. J.E. Vincent at Erasmus University, Rotterdam, Netherlands is a world recognized authority on prostaglandins which regulate the blood pressure. Their manufacture is dependent upon the availability of selenium. He found that when selenium is low, these prostaglandins will only be manufactured up to a certain point, then as incomplete substances they will enter the blood stream. **These incomplete prostaglandins now cause degenerative lesions, plaque formation, platelet clumping, and an elevation of blood pressure.**⁵⁰ Dr. James Aiken of the Upjohn Laboratories has discovered a kidney prostaglandin which regulates blood pressure. Dr. N. Larsen in Vienna, Austria confirmed this discovery and found, like Dr. Vincent in the Netherlands, that the production of this prostaglandin is selenium dependent. He found that the **blood from patients with high blood pressure was always low in selenium** compared to the level of selenium in the blood of healthy people.⁵¹

Dr. Johan Borksten studied the heart attack rate among the people of Finland and compared it to the soil and water levels of selenium in the areas where they lived. He found that those who lived in **selenium-richer areas had a heart attack rate of 1 per 1,730 people, while those living in low selenium areas had a heart attack rate of 1 per every 224 people.** A rather profound indictment of the importance of selenium to the cardiovascular system.⁵² Another very important study on selenium was also done in Finland. There a research team under the direction of Dr. J. T. Salonen collected and froze the blood of 11,000 people who had no outwards signs of illness. All were

thought to be healthy. Over the next 10 years 367 of these people died from heart attacks or other heart disease. They were carefully matched to other people from this same group who still appeared to be healthy. They were matched, according to age, sex, blood pressure, and cholesterol. The frozen blood of all these people was then thawed and compared for differences. The most glaring difference turned out to be the difference in their selenium level. **Those who developed fatal heart conditions had much lower selenium levels in their blood than did those who remained healthy.** It was also found that those who had a selenium level **below 45 mcg. per liter** of blood, had a **death rate due to cardiovascular incidents 300% ABOVE** those who had selenium levels above 45 mcg.⁵³

In concluding this examination of selenium, we should point out that when selenium and vitamin E were mixed together in one tablet and given to cardiac patients in Mexico City who had severe reoccurring angina pectoris, Dr. J. Willalon reported that it was **92% effective in eliminating or reducing angina attacks and improved both the electrocardiogram and the capacity of the patient to do work.**⁵⁴ All of this evidence makes it more than just moderately clear that if we wish to have healthy hearts, we must have an adequate daily intake of Vitamin E and Selenium.

ASCORBYL PALMITATE

Lipids (fats) when altered by free radicals become rancid. This happens inside our body in the same way it does in our kitchen. Since the walls of our cells, including arterial cells and red blood cells, are filled with lipids, it is to our great advantage to protect them. Tests by Eastman Food Laboratories have shown that soybean oil, a lipid like those in our body, will become rancid in seven days when unprotected by a free radical scavenger. **The addition of just one-tenth of one percent of vitamin C as ascorbyl palmitate will allow soybean oil to remain unaltered for more than twice as long (16 days) before being altered by the free radicals.**⁵⁵ Although very expensive, the "LIFETIME" formula contains a significant amount of this powerful protector of lipids. In the blood stream ascorbyl palmitate may be able to protect the lipid-filled membranes of the arterial cells from the plaque-generating free radicals with which they come in contact, as readily as it protects soybean oil.

CHROMIUM

Chromium is another element that is important to the cardiovascular system. Drs. Schroeder, Nason, and Tipton did a study on chromium and found that when **man or animals were deficient, there is a higher rate of atherosclerosis and death.**⁹⁸ A study completed in Israel in 1980 by Drs. A.S. Abraham and coworkers found that when rabbits develop clogged arteries due to a high fat diet, **chromium will allow these occlusions to be dissolved.**⁹⁹ A study completed in 1978 by Dr. H.A. Newman and associates found that patients reporting to hospitals with coronary artery disease had **chromium levels** in their blood serum **several times lower** than those who reported for other conditions.¹⁰⁰ In 1984 this study was repeated by Dr. M. Simonoff and team, this time using blood plasma instead of serum. It was again discovered that **coronary patients had chromium levels**

several times lower than non-coronary patients.¹⁰¹ These facts definitely indicate that chromium deficiency plays a major role in the generation of atherosclerosis.

VITAMIN C

We have previously mentioned the tremendous benefits of Vitamin C in its role of raising the beneficial HDL and lowering the harmful LDL cholesterol. However, vitamin C offers additional benefits to the cardiovascular system by also acting as a neutralizer of free radicals before they can attack our arteries—creating atherosclerosis. In 1972 Dr. M.L. Riccitelli of the Yale School of Medicine states that evidence has existed since 1949 that vitamin C will prevent atherosclerosis.⁵⁶ He cited the work of Dr. J. B. Duguid in 1949 that demonstrated the development of atherosclerosis in guinea pigs simply by reducing their dietary intake of Vitamin C.⁵⁷ Researchers such as Dr. Emil Ginter of Czechoslovakia,⁵⁸ Dr. G.C. Willis of Canada,⁵⁹ Dr. C.S. Leslie of England,⁶⁰ Dr. K.R. Sebrov in Russia,⁶¹ and in America Dr. R.O. Mummo at Rutgers University⁶² **have all demonstrated that when vitamin C levels are elevated, that not only does serum cholesterol drop but that in both man and animals atherosclerotic plaques general begin to disappear.** Using nothing but supplements of Vitamin C, Drs. Krumdiek and Butterwork in 1974 obtained a **substantial reduction of plaque in 60%** of the patients receiving the vitamin C in less than a year, while none of the placebo group experienced plaque reduction.⁶³ Writing in the British Medical Journal, The Lancet, Dr. E.G. Knox published the results of a study showing that high coronary death rates in areas of England with low vitamin C intake, while areas with high vitamin C intake had a much lower coronary death rate.⁶⁴ Perhaps one of the most amazing experiments was completed by Dr. Sir Hans Krebs in England in 1946 when **he was able to induce heart attacks in healthy volunteers between the ages of 20 and 30, simply by placing them on a diet deficient in Vitamin C.**⁶⁵ The importance of vitamin C to a healthy cardiovascular system is born out by the research in Russia, carried out by Dr. Zaitsev and coworkers in 1964. They fed radioactive cholesterol to guinea pigs, then using a Geiger counter, determined how their cholesterol was used. Guinea pigs, like man, require vitamin C in their diet. Those not receiving enough vitamin C deposited the cholesterol in their aorta (the main artery from the heart). Whereas those who received adequate vitamin C deposited the cholesterol in the liver, where with the use of vitamin C it was converted to bile and excreted from the body, and in the adrenal glands, where with the use of vitamin C it was converted to hormones.⁶⁶

REVERSING ATHEROSCLEROSIS

While there is no nutrient which can either prevent or reverse plaque formation or atherosclerosis, the human body can. It can, when it is adequately supplied with the raw materials which allow it to do so. Five of the most powerful raw materials to support the body in this activity are Vitamin E, selenium, chromium, ascorbyl palmitate, and Vitamin C. These are the most powerful nutrients available for the protection of the cardiovascular system against the damaging effect of free radicals so prevalent in our modern world. **Each of these is included in the "LIFETIME" Formula at biologically effective levels**

where they are able to support and reinforce each other. In addition, they are supported in the “LIFETIME” Formula by a full compliment of the less active free radical extinguishers—zinc, copper, manganese, cystine, methionine, glutamine, vitamin A, and beta-carotene. This entire cast of nutrients is able to provide a basis of nutritional support to the cardiovascular system, from which it may draw to protect itself from free radical degradation, and thus maintain cardiovascular integrity, as well as provide broad spectrum nutritional support for the entire body.

3. PREVENTING CLOTS & THINNING THE BLOOD

PREVENTING STICKY BLOOD

The lining of the arteries is only one layer thick. Part of the duties of the cells that make up this lining is the manufacture of a substance known as *prostaglandin 1, also called prostacyclin or PG1 for short*. This substance **keeps the walls of the arteries slippery** so that platelets and red blood cells do not stick to the artery walls, or to each other. This is very important because as Dr. Maclouf and coworkers have demonstrated, **even a small clot releases thromboxane**. This is **an inflammatory chemical** that irritates the artery walls, stimulating fibrinogen **to create fibers**, and causes other **platelets and red blood cells** to become **sticky and adhere to each other**—thus promoting **atherosclerosis and blood clots**, which may lead to strokes and heart attacks.⁶⁷ Obviously, it is important to prevent this.

While the taking of aspirin will thin the blood and prevent blood clots, **it also creates a toxic effect upon the liver, inhibits normal clotting of injuries, and there is a danger of stomach hemorrhages**. Just as effective at preventing clots, but without the negative side effects, is a whole series of nutrients which can also do a lot more for your body than just thin your blood and prevent clots. We shall examine a few of these.

BROMELAIN

Bromelain is a complex of proteolytic enzymes found in the stem of the green pineapple. One of the amazing properties of bromelain is that unlike other proteolytic enzymes, this one has the ability to cross the intestinal wall and enter the blood stream. Several studies including one by Drs. Miller and Opher show that up to 40% of orally ingested bromelain enters the blood.⁶⁸ Once in the blood, Drs. Ako and coworkers found that **bromelain activates a plasmin**—a natural blood substance which **dissolves the fibers** found in atherosclerotic plaques.⁶⁹ In addition Drs. Schaffer and Adelman found in 1985 that **bromelain-activated plasmin prevents platelets from abnormal clotting**.⁷⁰ This is achieved by inhibiting the production of thromboxane—the irritating prostaglandin which causes blood clots. It was found by Drs. Taussig and Nieper that **a daily dose of 60 to 160 mg. of bromelain** is sufficient to cleanse the arteries of blood clots when given on a long-term basis.⁷¹ **The “LIFETIME” Formula provides 200 mg.** per day, thus providing a nutritionally effective level.

GARLIC AND GINGER

As has been previously mentioned, free radical activation of thromboxane leads to fiber formation, platelet aggregation,

and clotting. All key factors in the formation of atherosclerotic plaque. The herb garlic contains **a number of sulfur-rich compounds** which Drs. Norwell and Tarr found in 1983 **inhibit an enzyme called cyclo-oxygenase**. It is this enzyme that is responsible for the release of the damaging thromboxane. By inhibiting this enzyme, garlic prevents the formation of atherosclerotic fibers and clots.⁷² As dramatic as garlic is, the herb ginger is even better. **Ginger contains three different sesquiterpenes**—compounds which Dr. K. Sirvastava found in 1984 were **significantly better at inhibiting thromboxane production and platelet clotting** than was garlic.⁷³

VITAMINS C AND E

It was found by Drs. Ross and Vogel in 1978 that vitamin C is capable of preventing platelets from forming abnormal blood clots, while at the same time not interfering with normal wound clotting time.⁷⁵ Dr. C.S. Leslie conducted an experiment in which hospitalized clot-prone patients were divided into two groups. One received a placebo and the other group received one gram of vitamin C per day. A comparison demonstrated that **clot incidence among the vitamin C group was just half of the placebo group**.⁷⁶ In 1949 Dr. Alton Ochsner, at the time a famous American surgeon, discovered that by giving his surgical patients vitamin E supplements, he could prevent the blood clots that usually follow surgery.⁷⁷ During the early 1970's a team of Swedish researchers led by Dr. Korsn-Bengsten conducted **four separate studies** using vitamin E. In 1975 they published their results showing that **vitamin E made the blood thinner and prevented abnormal blood clots**, while not inhibiting normal wound healing time.⁷⁸ In 1981 a review of the research showing vitamin E prevent abnormal blood clots was verified and published by the highly respected *New England Journal of Medicine*.⁷⁹

EPA—VITAMIN B-6 & BIOFLAVONOIDS

In 1984 it was shown by a British research team led by Dr. B.E. Woodcock that **EPA found in marine lipids was capable of inhibiting the release of thromboxane** by promoting the syntheses of prostacyclin. This allows the platelets to remain slippery and prevents abnormal clotting of the blood.⁸⁰ Dr. S.C. Lam headed an American research team which discovered that high blood levels of **vitamin B-6 also inhibited platelets from abnormal clotting**.⁸¹

Dr. R.C. Robins at the University of Florida has conducted a number of experiments comparing various bioflavonoid compounds to the known anti-adhesive effect of the powerful drug heparin. This drug is usually injected in medical emergencies to prevent blood clots. Yet Dr. Robins found that the **citrus bioflavonoids had superior anti-thrombic ability to prevent clots than heparin**.⁸² Dr. Robbins has also made another amazing discovery with regard to bioflavonoids. They lower elevated hematocrit to normal without lowering a normal one. The hematocrit is the amount of red blood cells compared to the overall blood volume. It was the famous Framingham Study that established **a high hematocrit as an indicator of impending heart attack or stroke**. However, **the daily intake of bioflavonoids can lower the hematocrit to normal**.⁹⁶

ANTI-CLOTTING SYNERGY

We have just reviewed the scientific findings on eight totally natural substances which reveals each of them has the ability to dramatically inhibit platelets and red blood cells from forming abnormal clots. An ability that exceeds even that of the most potent anti-clotting drugs. **Not only is this important from the standpoint of preventing sudden death due to heart attacks, strokes, and embolisms, it is also important from the standpoint of preventing plaques and atherosclerosis.** In 1978 it was found by Drs. Ross and Vogel that when platelets clump together they release a powerful mitogenic polypeptide. The polypeptide causes DNA synthesis and **the proliferation of any cell where the platelets adhere along the arterial walls.**⁷⁵ **Thus the clots become extremely atherosclerogenic. The eight natural substances reviewed here help the body prevent this in a totally natural and beneficial way.** With all eight of them working together at a nutritionally effective level, such an unprecedented beneficial effect is compounded by the synergy of reinforcement to reach an unprecedented level of support for both the cardiovascular system, as well as the entire human body on a maintenance basis.

4. SUPPORTING THE CARDIOVASCULAR SYSTEM

The following nutrients in the “LIFETIME” Formula have all been found to provide specific nutritional support for the cardiovascular system.

VITAMIN A Supplements have been found to be highly beneficial in the prevention of heart disease. Drs. Ross and Campbell conducted an experiment in which 136 patients were given 24,000 IU of vitamin A and 3,000 IU of vitamin D per day. Another 271 patients received only a placebo. **At the end of 5-1/2 years, only 8 people of the 136 receiving the A & D supplements developed coronary heart disease, while 43 of the 271 without the supplement became afflicted.** The incidence of heart disease without vitamin A & D was **25% greater** than those who received it.⁸³

BETA CAROTENE is a very active single-oxygen quencher and a good free radical scavenger, which prevents lipid peroxidation (fat rancidity). Dr. J.A. Olson discovered **it is transported through the blood in LDL cholesterol where it helps reduce its harmful oxidative effects on the arterial walls.**⁸⁴

THIAMIN—the first member of the B-complex family has been found to be a vitally important nutrient to the heart. Numerous animal experiments have demonstrated this relationship. One study consisted of a thiamin analysis of cardiac tissue from 10 people who died from heart attacks and 10 who had died due to other causes. **The thiamin content of heart attack victims averaged 45% of that of non-heart attack victims.**⁸⁵

RIBOFLAVIN—the second B-vitamin was found in 1981 at the University of Alabama School of Medicine to be vitally critical for the production of glutathione, one of the two most important free radical controlling enzymes manufactured by the body. Glutathione guards the lining of the blood vessels,

the red blood cells, and the lens of the eye from free radical attack. Drs. Skalka and Prchal found that **when riboflavin becomes too low, cataracts form in the eye, red blood cells disintegrate, and arterial plaques form rapidly.**⁸⁶

PANTOTHENIC ACID—(B-5) is known as the “stress vitamin” because of its role in supporting the adrenal glands in producing stress hormones. It is also a major component of the important molecule Coenzyme A, which is vital to the creation of energy from carbohydrates and fats. **A lack of pantothenic acid had been shown to lead to a rapid heart beat.**⁸⁷

FOLIC ACID is a little known vitamin important in a wide variety of functions, which is often deficient in many people. Dr. T.L. Kopjas did a study with 17 elderly patients with severe atherosclerosis. Giving them supplements of folic acid, **their small arteries dilated enabling blood to flow. Their circulation so improved that vision improved and leg ulcers healed.**⁸⁸

BIOTIN is a vitamin involved in energy pathways and lipid metabolism. The very physically active and the elderly frequently demonstrate deficiencies. The Medical Journal *Artery* reported in 1980 that **supplements of this vitamin to the elderly resulted in a decline of their elevated blood lipids.**⁸⁹

PABA is a vitamin best known for its ability to protect proteins from cross-linking, and therefore a favorite sun-screen. However, in 1977 Dr. B. Vessby at the University of Uppsala in Sweden gave PABA supplements in a double-blind cross-over study to individuals with elevated cholesterol. **The PABA lowered both cholesterol and triglycerides without lowering HDL.**⁹⁰

CHONDROITIN SULFATE a & MUCOPOLYSACCHARIDES—Dr. A. Verlangieri at Rutgers University discovered that when atherosclerosis developed, something was lost from the arterial wall. He found that cholesterol attached itself only to those areas where the substance was missing. He learned that **the missing substance was Chondroitin Sulfate**, which disappears when vitamin C gets low. Meanwhile, Dr. L. Morrison began giving atherosclerotic patients supplements of chondroitin sulfate extracted from calf trachea. **Dr. Morrison reported an 80% decline in the death rate of cardiac patients receiving the supplement.**⁹¹ Chondroitin sulfate is a mucopolysaccharide. Many mucopolysaccharides are extracted from shellfish. Mucopolysaccharides normally circulate in the blood and **have been found to lower cholesterol and to retard the aging and degeneration of the arteries.**⁹²

COENZYME Q-10 has just recently been made available in the U.S. after having been used in Japan for many years. However, it is an American, Dr. Karl Folkers of Texas, who has completed such massive research on this natural body enzyme. Studies have shown this vital energy-producing enzyme **is often deficient in cardiac patients.**⁹³ **Co Q-10 has been found to bring improvement in all forms of cardiac malfunctions when taken in large enough doses on a daily basis.**⁹⁴

DONG QUAI is an herb which grows throughout most of the world. However, it is in Asia that it has long been used for health purposes. Recent studies have shown that **this herb contains various forms of natural coumarins, which create a**

vasodilating effect, which lowers blood pressure. This is achieved through its calcium-blocking abilities. It has also been found to have anti-arrhythmia characteristics.⁹⁵

HAWTHORNE BERRY is an herb which for more than 100 years has been used as an extremely effective support for the heart. It was said to relieve high blood pressure, edema, poor valve function, rapid and irregular heart beat, and lung congestion after all else had failed—and never once did it do harm no matter how much was taken. **All of these statements were made over 75 years ago in the Journal of the AMA.**⁹⁷

GERMANIUM SESQUIODISE: In use for the past several years in Japan, this organically-bounded mineral carries three atoms of oxygen, which can be released in the tissues. Drs. S. Tomizawa and associates reported in 1978 on research which demonstrated that germanium compounds have **the ability to lower blood pressure and increase cardiac efficiency.**¹⁰²

CONCLUSION: One hundred two scientific references have been cited in reviewing the key nutrients used in the “LIFETIME” Formula. **They clearly indicate that nutritional supplements often can play a major role in creating a healthy heart and vascular system—even after years of neglect.** Just think, each of the results cited here was obtained when only one nutrient was used! **Imagine what might be possible when all of them are used in one carefully balanced formula!**

“LIFETIME” FORMULA AS A DAILY MAINTENANCE. This Formula also offers a powerful blend of synergistic nutrients carefully balanced to provide optimum daily nutritional support, **thus creating the ideal daily maintenance supplement** for exceptional health and longevity for people of all ages!

WARNING: No one should ever quit taking or reduce heart or blood pressure medication unless being advised to do so by their physician. **To do otherwise could be fatal.** Some medications are easy to get on, but very difficult to get off.

#1006 LIFETIME (360 TABLETS)

#1007 LIFETIME (180 TABLETS)

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