



THORNE<sup>®</sup>  
R E S E A R C H



*Thorne Research*

*cardiovascular support  
and lipid metabolism*



Choleast

Perfusia-SR®

Policosanol

Methyl-Guard®

Neo-Cardio™

Taurine

Lycopene

Phosphatidyl Choline

Pharmacol-40

Lactobacillus Sporogenes

Ultimate E®

L-Carnitine

Niasafe-600®

Pantethine

Coenzyme Q10 products

Q10 Plus®

Omega-3 w/CoQ10

Super EPA

Krill Oil

Omega Plus

Black Currant Oil

## Cardiovascular Support

the new generation of cardiovascular support products

- maintain normal cholesterol and triglycerides
- support cardiovascular function
- maintain normal blood pressure
- enhance blood perfusion
- provide potent antioxidant activity
- promote fat breakdown

Thorne's science-based products are provided in pure capsule form without the addition of preservatives, or additives that might inhibit absorption. Because of the wide variety of patient needs, Thorne Research offers a broad range of nutrients and botanicals that benefit the cardiovascular system, including some unique products manufactured exclusively by Thorne.



A wealth of research and information on diet, nutrients, and botanicals, and their effect on cardiovascular disease has been generated in the past 25 years. Despite this, cardiovascular disease afflicts millions of people in the United States and remains the leading cause of death of men and women. In fact almost 80 million people in the United States have some form of cardiovascular disease, and every minute someone in the United States dies of a heart attack.

The cardiovascular disease process begins early in life, with significant functional changes in the cardiovascular system occurring in most persons by the time they reach their mid-20s. This widespread prevalence of cardiovascular disease provides an opportunity for the complementary/alternative practitioner to educate and intervene with dietary and lifestyle recommendations, as well as proven nutritional supplements, to create a lasting impact on disease risk.

## Lipid Management and Cardiovascular Metabolism Support

Elevated blood cholesterol is one of several risk factors for cardiovascular disease. Although conventional prescription medications are often effective at lowering cholesterol, the potential for adverse effects involving the liver, muscle tissue, eyes, and other organs causes many patients to seek alternatives. The first step in natural cholesterol management should involve dietary and lifestyle modifications, including a low-saturated fat, low-carbohydrate diet and aerobic exercise. As additional supplementation, several nutrients and botanicals can be used to aid in lipid metabolism, and an amino acid – L-arginine – may enhance the protective effects of statin drugs.

The cholesterol fraction that appears to be of most concern is LDL cholesterol, and even more specifically, oxidized LDL. Therefore, in addition to concentrating on lipid lowering, antioxidant supplementation may be beneficial for decreasing the oxidation of LDL.

### Cholest<sup>TM</sup>

#### Supplement Facts

Serving Size: One Capsule Servings Per Container: 120

Each Capsule Contains:		% DV
Red Yeast Rice ( <i>Monascus purpureus</i> )	600 mg.	*
Coenzyme Q10	15 mg.	*

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Leucine

120 Vegetarian Capsules  
Code: SF751  
Dosage: 2 to 4 capsules bid

NOTE: This product may cause a temporary and harmless red coloring of the stool

### Cholest<sup>TM</sup> with natural HMG-CoA reductase inhibitors

After a check of their cholesterol levels and the subsequent prescription for a lipid-lowering “statin” drug, many patients express concern over potential adverse effects of drug therapy. Cholest is a natural alternative to the prescription drugs most often used in this case. Cholest is a lipid-lowering supplement containing red yeast rice, *Monascus purpureus*, a red-pigmented yeast grown on rice. Red yeast rice has been found to significantly benefit blood lipid levels, including total cholesterol, LDL cholesterol, and triglycerides.

Numerous scientific studies in China and the United States have proven red yeast rice preparations to be helpful in establishing normal blood lipid levels. This is important, as maintaining optimal cholesterol and triglyceride levels has been shown to reduce the incidence of myocardial infarction.

Red yeast rice appears to exert its influence on blood lipids by inhibiting the enzyme HMG-CoA reductase; the lipid-lowering “statin” drugs inhibit this enzyme as well. In contrast to drugs that contain one isolated synthetic HMG-CoA-reductase-inhibiting molecule, red yeast rice contains nine naturally-occurring HMG-CoA reductase-inhibitor compounds, phytosterols (beta-sitosterol, campesterol, and stigmasterol), isoflavones, and trace minerals. There is scientific evidence that inhibition of HMG-CoA reductase, in addition to inhibiting cholesterol biosynthesis, can also inhibit production of Coenzyme Q10 (CoQ10), the ubiquitous antioxidant and energy-producing nutrient vital to mitochondrial function. While it remains to be researched whether red yeast rice can cause this same deficiency in humans, one animal study suggests this is a possibility. To safeguard against CoQ10 depletion, Cholest contains 15 mg CoQ10 per capsule.

## Perfusia-SR® sustained-release L-arginine

For oxidized cholesterol to embed in the wall of an artery, there first must be a breakdown of the normal protective mechanisms in the vascular endothelial cells lining the inside of blood vessels. This makes it vital to not only lower the amount of circulating cholesterol, but to also support the natural preventive functions of the vascular endothelium, which depend on an adequate amount of the amino acid L-arginine being available to these cells. L-arginine is converted to nitric oxide, which is responsible for vascular smooth muscle relaxation and results in optimal blood flow. Adequate nitric oxide production also makes these cells more resistant to oxidative damage and adhesion by monocytes, platelets, and LDL cholesterol. Numerous studies have demonstrated individuals with hyperlipidemia, hypertension, heart failure, peripheral vascular disease, and diabetes have reduced nitric oxide production by endothelial cells.

Numerous studies on L-arginine supplementation show improvements in blood flow, blood pressure, and homocysteine levels. However, regular L-arginine is absorbed and metabolized very quickly, necessitating the use of large doses or frequent dosing throughout the day. Perfusia-SR maintains a therapeutic level of L-arginine over 24 hours with twice-daily dosing.

Studies on Perfusia-SR have shown increased blood flow to the heart muscle and the extremities, reduced blood pressure, and improved vascular elasticity. A 2004 study found Perfusia-SR potentiated the beneficial effect of statin drugs on the vascular endothelium, resulting in better blood flow.

Another recent study demonstrated improved myocardial blood flow after Perfusia-SR supplementation in patients with coronary heart disease. This study utilized myocardial PET scans to determine a 22-percent increase in high-level myocardial functioning.

Perfusia-SR was given to 29 healthy volunteers for one week and significant improvement was seen in diastolic blood pressure (mean 4 mm Hg) and vascular compliance. In individuals with borderline or frank hypertension, a significant reduction was seen in systolic blood pressure (mean 11 mm Hg).

### When sufficient L-arginine is present:

- arteries relax, causing greater blood flow
- as arteries relax, normal blood pressure is better maintained
- erections occur in the normal course of intimacy
- white blood cells and platelets adhere less to vascular endothelial cells, helping to maintain supple, flexible arteries

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.

## Perfusia-SR®

### Supplement Facts

Serving Size: Two Capsules Servings Per Container: 60

Two Capsules Contain:	% DV
L-Arginine <sup>†</sup>	1000 mg. *
Time-Sorb®	400 mg. *

\*Daily Value (DV) not established

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Leucine, Silicon Dioxide.

<sup>†</sup>L-Arginine in a patent-pending time release matrix - Time-Sorb® (high and low viscosity hydroxypropylmethyl-cellulose USNF and Magnesium Citrate/Laureate).

120 Vegetarian Capsules

Code: SA525

Dosage: 2 capsules bid

NOTE: Individuals with known herpes infection should not take arginine without also taking lysine, as arginine alone has been noted to cause herpes eruptions in susceptible individuals.



## Policosanol

### Supplement Facts

Serving Size: One Capsule Servings Per Container: 60

Each Capsule Contains:	% DV
Policosanol	5 mg. *

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Magnesium Citrate, Leucine, Silicon Dioxide.

60 Vegetarian Capsules

Code: SF708

Dosage: 1 to 2 capsules bid

**WARNING:** Because of its inhibition of platelet aggregation, policosanol should be used with caution or avoided in patients on anticoagulant therapy.



## Policosanol the safe solution for enhancing cardiovascular health, lipid metabolism, and platelet function

Another natural alternative to lipid-lowering drugs, policosanol is well researched, with more than 40 studies to date representing supplementation to tens of thousands of people. These studies have reported substantial cardiovascular benefits of the specialized plant fats found in policosanol - a mixture of long-chain "fatty alcohols" with a demonstrated ability to positively impact cardiovascular biomarkers.

Policosanol appears to improve lipid metabolism by increasing hepatic binding, uptake, and degradation of LDL cholesterol. Supplementation also appears to positively modify the endogenous synthesis of lipids by influencing the activity of HMG-CoA reductase, the rate-limiting enzyme in lipid biosynthesis. The result is substantially increased metabolism of total cholesterol as well as improved ratios of LDL to HDL.

In humans, policosanol has also demonstrated a dose-dependent ability to promote improved resistance of LDL to oxidative stress.

Policosanol's ability to positively modify platelet function appears to be more specific than that of aspirin. While aspirin inhibits multiple aspects of prostaglandin metabolism, policosanol's activity appears to be specific to thromboxane B<sub>2</sub>, resulting in a dose-dependent improvement in platelet function and decrease in platelet aggregation without the detrimental effects that can occur when multiple aspects of prostaglandin metabolism are inhibited.

Supplementation with policosanol has resulted in improved cardiovascular function as determined by ECG testing, improved aerobic exercise capacity, and enhanced blood flow to peripheral tissues (as assessed by peripheral skin temperatures and arm/ankle pressures) in individuals with a variety of functional challenges to the cardiovascular system.



## Methyl-Guard® homocysteine metabolism cofactors

An elevated level of plasma homocysteine (a normal metabolite of the sulfur-containing amino acid methionine) is an independent risk factor for development of cardiovascular disease. Normal metabolism of homocysteine involves converting it to the heart-essential nutrient taurine and the amino acid cysteine, or “recycling” homocysteine back to methionine. Specific nutritional cofactors are necessary for these biochemical conversions: 5-methyl-tetrahydrofolate (activated folate), methylcobalamin (activated vitamin B12), pyridoxal 5'-phosphate (activated vitamin B6), and betaine (trimethylglycine). In numerous clinical studies, supplementation of these nutrients has significantly lowered blood homocysteine levels.

In addition to the homocysteine-reducing effects of the ingredients in Methyl-Guard, folic acid has been shown to improve vascular endothelial function, working as a cofactor with vitamin C for L-arginine-induced nitric oxide production.

Thorne Research was the first supplement manufacturer to make a homocysteine-lowering formula. In Methyl-Guard, Thorne supplies homocysteine-lowering nutrients in the most active and stable forms.

## Neo-Cardio™ nutritional support for cardiovascular function

Neo-Cardio is a synergistic blend of cardiogenic herbs, key nutrients, and the proteolytic enzyme bromelain. *Terminalia arjuna* has a long history of use in Ayurvedic traditional medicine. Recent scientific investigation demonstrated the ability of this plant to improve left ventricular ejection fraction and stroke volume. *Inula racemosa* can prevent ST-segment depression and T-wave inversion in post-exercise electrocardiograms. Astragalus has been observed to have significant cardiovascular activity. Administration is associated with improved left ventricular function and a reduction in free radical activity. Studies have demonstrated improvement in left ventricular end-diastolic and end-systolic volume, a slowing of heart rate, and increased cardiac output. Bromelain inhibits platelet aggregation, modulates prostaglandin synthesis, and promotes fibrinolytic activity. Niacin and inositol hexaniacinate exert a favorable effect on blood lipids and reduce the susceptibility of LDL cholesterol to oxidative damage.

## Methyl-Guard®

### Supplement Facts

Serving Size: One Capsule Servings Per Container: 180

Each Capsule Contains:		% DV
Vitamin B6 (from 10 mg. Pyridoxal 5'-Phosphate)	6.8 mg.	340%
Folate (as 5-Methyl-tetrahydrofolate)	400 mcg.	100%
Vitamin B12 (as Methylcobalamin)	400 mcg.	6,666%
Pure Betaine (Trimethylglycine)	600 mg.	*

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Silicon Dioxide.

180 Vegetarian Capsules  
Code: SF787  
Dosage: 2 capsules tid

## Neo-Cardio™

### Supplement Facts

Serving Size: Three Capsules Servings Per Container: 30

Three Capsules Contain:		% DV
Vitamin B3 (from 20 mg. Niacin and 300 mg. Inositol Hexaniacinate)	290 mg.	1450%
Magnesium (as Magnesium Citrate-Malate)	100 mg.	25%
Terminalia arjuna extract (bark) (2% Arjunolic Acid)	500 mg.	*
Inula racemosa extract (2% Allantolactone)	350 mg.	*
Astragalus membranaceus (Huang-Qi) (root)	200 mg.	*
Bromelain (3,200 m.c.u. minimum)	170 mg.	*

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Leucine, Silicon Dioxide.

90 Vegetarian Capsules  
Code: SF716  
Dosage: 1 to 2 capsules tid

WARNING: Because of its fibrinolytic potential, Neo-Cardio should be used with caution or avoided in patients on anticoagulant therapy.

## Taurine

### Supplement Facts

Serving Size: One Capsule Servings Per Container: 90

Each Capsule Contains:	% DV
Taurine	500 mg. *

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Silicon Dioxide.

90 Vegetarian Capsules  
Code: SA511  
Dosage: 1 to 2 capsules bid

## Lycopene

### Supplement Facts

Serving Size: One Gelcap Servings Per Container: 60

Each Gelcap Contains:	% DV
Lycopene	10 mg. *

\*Daily Value (DV) not established.

Other Ingredients: Rice bran oil, Lyc-O-Mato® Lycopene, Gelatin, Glycerin, Purified Water, Medium Chain Triglycerides, Yellow Beeswax, Silica.

60 Gelcaps  
Code: SF792  
Dosage: 1 to 2 capsules tid

## Phosphatidyl Choline

### Supplement Facts

Serving Size: One Gelcap Servings Per Container: 60

Each Gelcap Contains:	% DV
Calories	7
Calories from Fat	7
Total Fat	1 g. <2%*
Saturated Fat	0 g. 0%*
Soy Phosphatide Complex	1200 mg. **
Phosphatidylcholine	420 mg. **

\* Percent Daily Values are based on a 2,000 calorie diet.

\*\* Daily Value (DV) not established.

Other Ingredients: Gelatin, water, and glycerin.

Contains ingredient derived from Soy.

60 Gelcaps  
Code: SP605  
Dosage: 6 to 8 gelcaps daily

## Taurine

### essential cardio-protective amino acid

The sulfur-containing amino acid taurine is the most abundant amino acid in the heart. Taken supplementally, taurine helps stabilize heart rhythm, improves cardiac function and blood lipid levels, and may help normalize blood pressure. In a seven-week study of obese, non-diabetic patients, taurine (3 grams daily) significantly improved serum triglycerides, total cholesterol, HDL cholesterol, and body weight. Taurine has also been shown to improve nitric oxide production in the vascular endothelium, which is essential to blood flow, blood pressure regulation, and overall cardiovascular functioning.

## Lycopene

### cardio-protective carotenoid

Lycopene is a red-pigmented carotenoid found in many plants, with the richest source being tomatoes and tomato products.

Recent epidemiological studies have demonstrated an inverse relationship between serum lycopene and incidence of, and mortality from, coronary heart disease, stroke, and myocardial infarction. Research also suggests blood vessel wall thickness and risk of myocardial infarction are reduced in individuals with higher adipose tissue lycopene concentrations.

Lycopene may improve cholesterol metabolism by inhibiting HMG-CoA reductase – the rate-limiting step in cholesterol synthesis – as well as by enhancing LDL degradation. In addition, lycopene's antioxidant activity increases resistance of lipoproteins to oxidative stress.

## Phosphatidyl Choline

### an important fat emulsifier

Phosphatidylcholine is a primary phospholipid in cell membranes and of circulating lipoproteins in the bloodstream. It is also a major constituent of bile, necessary for fat emulsification, absorption, and transport. Phosphatidylcholine has the potential to decrease absorption of dietary cholesterol and further regulate cholesterol by decreasing its synthesis and initiating its conversion to bile salts. This increases the excretion of lipids via the bile with resultant lowering of lipids in the bloodstream.

## Pharmacol-40™ introducing Pharmacol-40, a new, patented product from Thorne Research.

In an effort to reduce cardiovascular disease risk, many health-care practitioners suggest dietary changes and prescribe substances to improve blood lipid levels. Some of the methods employed, such as HMG CoA reductase-inhibiting (statin) drugs, are not well-tolerated by some patients, while other individuals are opposed to taking these drugs. In addition, some individuals do not reach target serum cholesterol and LDL levels with statin drugs alone. Most of the cholesterol in the bloodstream is produced in the liver, with a smaller amount derived from the diet. Addressing both hepatic production and gastrointestinal absorption of cholesterol can be of benefit in maintaining normal cholesterol levels.

Pharmacol-40 is a specific low-molecular weight polysaccharide derived from the enzymatic hydrolysis of chitin, a polyglucosamine substance found in crab and shrimp shells. Pharmacol-40 is a large molecule that resists digestion and therefore is not absorbed into the bloodstream – instead, it remains in the gastrointestinal tract where it attaches to dietary cholesterol, forming an insoluble complex that is not absorbed. Pharmacol-40 also binds cholesterol produced in the liver and secreted in the bile, preventing its reabsorption in the intestines. In a placebo-controlled, multicenter, clinical trial, 105 patients with mild-to-moderate hypercholesterolemia were randomized to receive HEP-40 (the active ingredient in Pharmacol-40) at varying doses or placebo and were evaluated at baseline, four, eight, and 12 weeks. A significant decrease in LDL cholesterol was observed, compared to placebo, in the group taking 2,400 mg once daily (-16.9%;  $p=0.002$ ). Since Pharmacol-40 binds to cholesterol in the gut, the researchers assessed whether fat-soluble vitamin absorption might be inhibited. Serum 25(OH) vitamin D levels were tested in a random sample of 91 patients and 22 in the placebo group at baseline and at 12 weeks. No significant difference was seen between groups. This study showed Pharmacol-40 is efficacious in reducing serum LDL cholesterol and is safe and well tolerated.

Pharmacol-40 has shown significant benefit by itself, and can be used in conjunction with Cholestast and Super EPA for maximum maintenance of lipid levels.

- a unique, patented form of chitin shown to help maintain healthy cholesterol levels
- binds to cholesterol in the gut, preventing its absorption
- does not interfere with absorption of essential nutrients
- can be used with other therapeutic interventions
- safe and well tolerated
- easy, once-daily dosing

## Pharmacol-40™

### Supplement Facts

Serving Size: Three Capsules Servings Per Container: 30

Three Capsules Contain:	% DV
Chitosan-40kDa	2400 mg. *

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space – Magnesium Citrate/Laurate, Silicon Dioxide.  
Contains ingredient derived from shellfish (shrimp, crab)

90 Vegetarian Capsules

Code: SP651

Dosage: 3 capsules once daily  
with evening meal



## Lactobacillus Sporogenes

### Supplement Facts

Serving Size: One Capsule Servings Per Container: 60

Each Capsule Contains:	% DV
Lactobacillus sporogenes <sup>1</sup> (providing approximately 1.5 billion CFUs)	100 mg. *

\*Daily Value (DV) not established.

<sup>1</sup>Bacillus coagulans (alternate nomenclature)

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Magnesium Citrate, Leucine, Silicon Dioxide.

60 Vegetarian Capsules  
Code: SF758  
Dosage: 1 capsule bid - tid

## Ultimate-E<sup>®</sup>

### Supplement Facts

Serving Size: One Gelcap Servings Per Container: 60

Each Gelcap Contains:	% DV
Vitamin E (as d-Alpha Tocopherol from 1,000 mg mixed tocopherols)	500 IU. 1666%
Typical profile of Ultimate E:	
d-Alpha tocopherol (500 IU minimum)	335 mg.
Beta tocopherol <sup>1</sup>	9-11 mg.
Gamma tocopherol <sup>1</sup>	400-450 mg.
Delta tocopherol <sup>1</sup>	115-150 mg.

Daily Value (DV)

<sup>1</sup>Beta, Gamma, and Delta tocopherols do not have recognized IU equivalents. Beta, Gamma, and Delta tocopherols will vary slightly as this is a pure, natural product with weight adjusted to achieve 500 IU d-Alpha tocopherol.

Other Ingredients: Gelatin, glycerin, and water.

60 Gelcaps  
Code: E143  
Dosage: 1 to 3 gelcaps qd

## L-Carnitine

### Supplement Facts

Serving Size: One Capsule Servings Per Container: 60

Each Capsule Contains:	% DV
L-Carnitine	330 mg. *

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Silicon Dioxide.

60 Vegetarian Capsules  
Code: SA502  
Dosage: 1 to 2 capsules tid

## Lactobacillus Sporogenes beneficial, stable probiotics can lower lipids

*Lactobacillus sporogenes*, a spore-forming, lactic acid-producing beneficial gut bacteria has been found to lower blood levels of lipids, specifically total cholesterol, in patients with type II hyperlipidemia. *L. sporogenes* is able to bind cholesterol in the intestines, inhibiting absorption. In addition, it is believed to have some HMG-CoA reductase inhibiting activity – thus interfering with cholesterol synthesis.

## Ultimate E<sup>®</sup> the purest mixed tocopherol formulation available

Oxidative stress is an important component of the atherosclerotic process, and thus antioxidants such as vitamin E are vital to the overall antioxidant capacity in the blood and tissues. Numerous clinical studies have shown vitamin E is beneficial to the cardiovascular system, and recent studies looking at mixed tocopherols have indicated they have a stronger inhibitory effect on lipid peroxidation than alpha-tocopherol alone. This indicates a more potent antioxidant effect of mixed tocopherols. Other research suggests a synergistic effect when providing mixed tocopherols together rather than taking tocopherols individually.

Ultimate E is an innovative vitamin E supplementation – a pure mixed tocopherol formula that does not contain the common soy oil filler used in most vitamin E preparations. Ultimate E offers the purest mixed tocopherol formula available.

## L-Carnitine critical cofactor for myocardial energy production

The healthy myocardium primarily relies on oxidation of fatty acids for energy production. L-carnitine – a trimethylated amino acid – is an essential nutrient involved in shuttling fatty acids within cells into the mitochondria, where they undergo beta-oxidation for cellular energy production. Highly metabolic tissues in the heart, liver, kidneys, skeletal muscle, and the epididymis appear to concentrate L-carnitine. In the heart muscle, L-carnitine facilitates fatty acid utilization, resulting in stabilization of rhythm, optimization of myocardial blood flow, and increased cardiac output. Carnitine also helps normalize and maintain blood lipid levels, with research showing improvements in total cholesterol, LDL, LP(a), and triglycerides.

## Niasafe-600® inositol hexaniacinate – a safer, non-flushing alternative to niacin

Physicians often use high-dose niacin therapy to achieve normal blood lipid levels; however, this practice can be uncomfortable for the patient due to hot flushes and GI distress caused by niacin. In fact, most patients on high-dose niacin therapy do not comply and take themselves off therapy. Many physicians prescribe a pharmaceutical time-released niacin to reduce these uncomfortable sensations; however, cases of hepatic damage and outright liver failure secondary to time-released niacin therapy have been reported.

Inositol hexaniacinate (IHN), the ingredient in Niasafe-600, consists of six niacin molecules surrounding an inositol molecule. It is absorbed intact and slowly hydrolyzed in the blood stream, with the release of free niacin and inositol. Because of its slow metabolism, flushing is generally minimal or non-existent. IHN is believed to act in the same way as niacin. Niacin appears to normalize lipids by decreasing mobilization of free fatty acids, decreasing VLDL synthesis in the liver (with a resulting decrease in triglycerides and total and LDL cholesterol), inhibiting cholesterol synthesis, and decreasing breakdown of HDL cholesterol. It also has fibrinolytic effects. Besides offering potential benefit for lipid lowering, IHN has also been shown to improve circulation in Raynaud's disease, intermittent claudication, and restless legs syndrome.

## Pantethine improve cholesterol metabolism with this metabolically active form of vitamin B5

Pantethine is the stable disulfide of pantetheine, the metabolically active form of vitamin B5. Pantetheine is a vital component of coenzyme A, a cofactor for dozens of enzymatic reactions, including those involved with fatty acid oxidation and carbohydrate metabolism. Pantethine appears to augment fatty acid oxidation by activation of coenzyme A, promotion of carnitine transport of fatty acids into the mitochondria, and subsequent intra-mitochondrial fatty acid oxidation.

Pantethine supplementation has been found to lower total cholesterol, triglycerides, LDL cholesterol, and apolipoprotein B, which if high, are all risk factors for cardiovascular disease. In addition, increases in beneficial HDL cholesterol and apolipoprotein A have been noted in association with pantethine supplementation. Pantethine has also been found to decrease platelet aggregation in people with diabetes.

## Niasafe-600®

### Supplement Facts

Serving Size: One Capsule Servings Per Container: 60

Each Capsule Contains:	% DV
Niacin (from 600 mg. Inositol Hexaniacinate)	510 mg. 2550%
Daily Value (DV)	

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Leucine, Silicon Dioxide.

60 Vegetarian Capsules  
Code: B113  
Dosage: 1 to 3 capsules tid

also available  
180 Vegetarian Capsules  
Code: B114

WARNING: Because of its fibrinolytic potential, Niasafe-600 should be used with caution or avoided in patients on anticoagulant therapy.

## Pantethine

### Supplement Facts

Serving Size: One Capsule Servings Per Container: 60

Each Capsule Contains:	% DV
Pantethine Octahydrate	250 mg. *
Daily Value (DV)	

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Magnesium Citrate, Leucine, Silicon Dioxide.

60 Vegetarian Capsules  
Code: SF706  
Dosage: 1 to 2 capsules bid

## CO-10®

<b>Supplement Facts</b>		
Serving Size: One Capsule		Servings Per Container: 90
Each Capsule Contains:		% DV
Coenzyme Q10	30 mg.	*

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Magnesium Citrate, Silicon Dioxide.

90 Vegetarian Capsules  
Code: SF721  
Dosage: 1 to 2 capsules bid

## Co-Q-100®

<b>Supplement Facts</b>		
Serving Size: One Capsule		Servings Per Container: 90
Each Capsule Contains:		% DV
Coenzyme Q10	100 mg.	*

\*Daily Value (DV).

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Magnesium Citrate, Leucine, Silicon Dioxide.

90 Vegetarian Capsules  
Code: SF719  
Dosage: 1 to 2 capsules bid

## Co-Q-300™

<b>Supplement Facts</b>		
Serving Size: One Capsule		Servings Per Container: 90
Each Capsule Contains:		% DV
Coenzyme Q10	300 mg.	*

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Magnesium Citrate/Laurate, Leucine, Silicon Dioxide.

90 Vegetarian Capsules  
Code: SF789  
Dosage: 1 capsule qd - tid

Cholesterol-lowering statin drugs decrease the body's ability to synthesize cholesterol; however, one unintended effect of these medications is a significant dose-dependent decrease in the biosynthesis of coenzyme Q10. CoQ10 is an essential biochemical cofactor and antioxidant present in the ATP-producing mitochondrial respiratory chain of all cells, including myocardial cells. A statin-induced CoQ10 deficiency is thought to be one possible explanation for the fatigue, myalgia, exercise intolerance, and peripheral neuropathy experienced by some individuals taking this type of cholesterol-lowering drug. Because of this, many experts advise the use of CoQ10 along with cholesterol-lowering statins to prevent this depletion.

## Co-10®, Co-Q-100® and Co-Q-300® an essential antioxidant and energy-producing nutrient

Like L-carnitine, coenzyme Q10 is absolutely necessary for proper myocardial function. CoQ10 is a vital component of energy production within the mitochondria of myocardial cells. CoQ10 is also an essential antioxidant that protects vascular endothelial cells from oxidative damage that can lead to decreased nitric oxide production, increased platelet aggregation, reduced blood flow, and an increased risk of atherosclerosis and coronary events. Type II diabetics, who commonly exhibit poor endothelial function and an increased risk of cardiovascular disease, were given 200 mg CoQ10 daily and demonstrated significantly improved endothelial function.

## CoEnzyme Q10 the ubiquitous antioxidant and mitochondrial factor

Coenzyme Q10 (ubiquinone, CoQ10) functions as an intracellular antioxidant. Due to its involvement in ATP synthesis, CoQ10 affects the function of all cells in the body, making it essential for the health of all tissues and organs. CoQ10 particularly benefits the most metabolically active cells: heart, immune system, gingiva, and gastric mucosa. An adequate amount of intracellular CoQ10 is vital to the health of heart muscle. CoQ10 stabilizes heart rhythm, may prevent ischemia, and can help maintain normal blood pressure. Supplementation with CoQ10 improved signs and symptoms of periodontal disease (including pocket depth and periodontal score) which have been linked with an increased risk for cardiovascular disease.

### CoQ100 & CoQ300 softgels – now in fish gelatin capsules!

Our CoQ10 softgels, available in 100 mg and 300 mg per capsule doses, offer the premier antioxidant and energy-producing benefits of Coenzyme Q10 in a rice bran oil carrier for superior absorption. CoQ10 is a fat-soluble nutrient, and research has demonstrated better absorption when delivered in oil. Research indicates rice bran oil may provide therapeutic benefits of its own, including improved cholesterol and triglyceride metabolism. Present in the mitochondria of every cell, CoQ10 is an essential factor in ATP production. Clinical trials on CoQ10 demonstrate particular benefit for the cardiovascular and neurological systems, as well as the gingiva and gastrointestinal tract.

CoQ10 has been shown to increase cardiac output, ejection fraction, and stroke volume in patients with congestive heart failure.

### CoQ100 Softgels

Supplement Facts		
Serving Size: One Gelcap Servings Per Container: 90		
Each Gelcap Contains:		% DV
Calories	2	
Calories from Fat	2	
Total Fat	0.5 g.	1%*
Saturated Fat	0 g.	0%*
Trans Fat	0 g.	0%*
Coenzyme Q10	100 mg.	**

\* Percent Daily Values are based on a 2,000 calorie diet.  
\*\*Daily Value (DV) not established.

Other Ingredients: Gelatin (from tilapia), Glycerin (vegetable source) gelcap. Rice Bran Oil, Beeswax, Lecithin (from sunflower), Vitamin E (mixed tocopherols), Zinc Oxide, Riboflavin (Vitamin B2).  
Contains ingredient derived from fish (tilapia).

90 Fish Gelatin Gelcaps  
Code: SP617  
Dosage: 1 to 2 gelcaps tid

### CoQ300 Softgels

Supplement Facts		
Serving Size: One Gelcap Servings Per Container: 90		
Each Gelcap Contains:		% DV
Calories	2	
Calories from Fat	2	
Total Fat	0.5 g.	1%*
Saturated Fat	0 g.	0%*
Trans Fat	0 g.	0%*
Coenzyme Q10	300 mg.	**

\* Percent Daily Values are based on a 2,000 calorie diet.  
\*\*Daily Value (DV) not established.

Other Ingredients: Gelatin (from tilapia), Glycerin (vegetable source) gelcap. Rice Bran Oil, Beeswax, Lecithin (from sunflower), Vitamin E (mixed tocopherols), Zinc Oxide, Riboflavin (Vitamin B2).  
Contains ingredient derived from fish (tilapia).

90 Fish Gelatin Gelcaps  
Code: SP618  
Dosage: 1 gelcap qd - tid

## Q10 Plus®

### Supplement Facts

Serving Size: Three Capsules Servings Per Container: 30

Three Capsules Contain:		% DV
Magnesium (as Magnesium Citrate)	200 mg.	50%
Potassium (as Potassium Citrate)	90 mg.	2.5%
Taurine	900 mg.	*
Coenzyme Q10	45 mg.	*
Ginkgo biloba extract (leaf) (24% Ginkgo Heterosides)	60 mg.	*
Hawthorne extract (top branch flowers) (Crataegus oxyacantha)	300 mg.	*

\*Daily Value (DV) not established.

Other Ingredients: Hypromellose (derived from cellulose) capsule. May contain one or more of the following hypoallergenic ingredients to fill space - Leucine, Silicon Dioxide.

90 Vegetarian Capsules  
Code: SF713  
Dosage: 1 to 2 capsules tid

WARNING: Because of blood thinning effects of Ginkgo, Q10 Plus should be used with caution or avoided in patients on anticoagulant therapy.

## Omega-3 with CoQ10

### Supplement Facts

Serving Size: One Gelcap Servings Per Container: 90

Each Gelcap Contains:		% DV
Calories	10	
Calories from Fat	10	
Total Fat	1.5 g.	2%*
Saturated Fat	0 g.	0%*
Trans Fat	0 g.	0%*
EPA (Eicosapentaenoic Acid)	450 mg.	**
DHA (Docosahexaenoic Acid)	180 mg.	**
Coenzyme Q10	30 mg.	**

\* Percent Daily Values are based on a 2,000 calorie diet.

\*\* Daily Value (DV) not established.

Other Ingredients: Gelatin (from tilapia), Glycerin (vegetable source) gelcap. Vitamin E (mixed tocopherols), Zinc Oxide, Riboflavin (Vitamin B2). Contains ingredient derived from fish (fish oil = sardine, anchovy, mackerel), (gelcap = tilapia).

90 Fish Gelatin Gelcaps  
Code: SP616  
Dosage: 1 to 2 gelcaps tid

## Q10 Plus®

### coenzyme Q10 with cardiac nutrients and botanicals

This combination of Coenzyme Q10, Hawthorne (*Crataegus oxyacantha*), potassium, taurine, and magnesium provides heart muscle with the nutrients needed for optimal functioning. CoQ10 is a vital element for the heart. Taurine is an essential nutrient cofactor for cardiac function, and is the most abundant amino acid in the heart. Flavonoid compounds in Hawthorne appear to strengthen blood vessels and stabilize heart rhythm, whereas, flavonoids in Ginkgo enhance blood flow. Magnesium and potassium are necessary for proper cardiovascular function.

This combination of nutrients and botanicals relaxes blood vessels, leading to optimization of blood pressure.

## Omega-3 w/CoQ10

### easy combination dosing of omega-3's and CoQ10

Research on fish oil demonstrates its role in the prevention of cardiovascular disease. Omega-3s from fish oil have been found to decrease the severity and frequency of arrhythmias, decrease the tendency to form blood clots, and lower cholesterol and triglyceride levels.

Quite often, individuals needing fish oil supplementation for cardiovascular support can benefit from the antioxidant and energy-promoting activity of coenzyme Q10. Omega-3 w/ CoQ10 provides the same high-potency fish oil concentrate as Super EPA, with 30 mg CoQ10 in each fish-gelatin softgel capsule. At the typical dosage range of 2 - 6 capsules daily, that's 60-180 mg of CoQ10 daily.

In the current debate over CoQ10 absorption, it appears CoQ10 is best absorbed when delivered in an oil medium. Therefore, combining CoQ10 with fish oil provides the cardiovascular benefits of both substances and enhances the absorption of CoQ10 and this product is available in fish gelatin gelcaps!



## Essential Fatty Acids for optimum cardiovascular support

- maintain a healthy heart
- improve circulation
- optimize serum lipid levels
- improve chronic inflammatory conditions
- maintain mobility of joints
- improve poor memory
- improve cognitive development in children

With the refinement of oils, reliance on fast foods, and increased consumption of saturated and hydrogenated oils and low-fat fare during the past several decades, the Western diet has become abysmally deficient in essential fatty acids (EFAs). Due to lack of EFAs in the diet or because of poor absorption, actual deficiency states are common, manifesting in a number of ways.

Undoubtedly due to widespread deficiency states, there are numerous and varied conditions that have been found to benefit from the addition of EFAs, either in the diet or via supplementation. Some of the best studied of these conditions include cardiovascular disease, hypertriglyceridemia, PMS, kidney disease, inflammatory bowel disease, osteoporosis, cognitive decline, asthma, rheumatoid arthritis, diabetes/insulin resistance, multiple sclerosis, psoriasis, and cancer prevention.

Because we know that no two patients are alike, at Thorne we offer a variety of essential fatty acid products to satisfy the varying needs of your patients.

Interest in the health benefits of cold-water fish oil has greatly increased since a landmark study over two decades ago on Greenland Eskimos found this population had low rates of heart disease, despite ingestion of high amounts of fatty fish. Unfortunately, the typical U.S. diet is practically devoid of omega-3 fatty acids from fish, resulting in an overabundance of pro-inflammatory omega-6 fatty acids and very little omega-3 (approximate omega-3 to omega-6 dietary ratio of 1:20). The essential omega-3 fats from fish, including EPA and DHA, are converted in the body into molecular messenger molecules (cytokines) beneficial to the cardiovascular system. Fish oil has been found, in both epidemiological and clinical studies, to decrease the incidence of cardiovascular disease, possibly by lowering triglycerides, decreasing platelet aggregation, and reducing the production of inflammatory cytokines. In addition to direct effects on triglycerides, studies have found fish oils decrease insulin resistance – another risk factor for cardiovascular disease – by enhancing glucose storage in the liver. Fish oil supplementation also increases endothelial nitric oxide production, which promotes vasodilation, increases blood flow, and is vasculoprotective. Ingestion of fish oil also stabilizes cardiac rhythmicity.

## Super EPA

<b>Supplement Facts</b>		
<b>Serving Size: One Gelcap Servings Per Container: 90</b>		
Each Gelcap Contains:		<b>% DV</b>
Calories	10	
Calories from Fat	10	
Total Fat	1 g.	3%*
Saturated Fat	0 g.	0%*
Trans Fat	0 g.	0%*
EPA (Eicosapentaenoic Acid)	425 mg.	**
DHA (Docosahexaenoic Acid)	270 mg.	**

\* Percent Daily Values are based on a 2,000 calorie diet.  
 \*\* Daily Value (DV) not established.

Other Ingredients: Gelatin (from tilapia), Glycerin (natural source) gelcap, Vitamin E (mixed tocopherols).  
 Contains ingredient derived from fish (fish oil = sardine, anchovy, mackerel), (gelcap = tilapia).

90 Fish Gelatin Gelcaps  
 Code: SP608  
 Dosage: 1 to 2 gelcaps tid

## Super EPA concentrated omega-3 fatty acids from cold-water fish – in fish gelatin capsules

Super EPA (our EPA/DHA fish oil supplement) has been one of our best-selling products for over two decades because of its exceptional purity and quality. Recent technology has provided us with an ultra-concentrated, ultra-pure fish oil material that enabled us to increase the amount of EPA and DHA in each gelcap. This more concentrated formula allows you to dispense the high-dose EPA and DHA that recent research says is indicated, without having to take extra capsules, resulting in better efficacy and patient compliance.

As always, you can count on Thorne to provide the highest quality, purest fish oil available. Molecular distillation ensures removal of cholesterol and contaminants, including PCBs and heavy metals.

Another innovation from Thorne – no more bovine gelcaps! We are proud to introduce the first products in gelcaps made entirely from fish-derived gelatin (source: tilapia).

## Krill Oil omega-3 fatty acids bound to important cell membrane phospholipids from Antarctic krill

Krill Oil is a unique source of omega-3 essential fatty acids extracted from Antarctic krill. A zooplankton crustacean, krill is rich in the omega-3 oils EPA and DHA, as well as phospholipids, flavonoids, and the carotene astaxanthin. The EPA and DHA in krill oil are already incorporated into phospholipid molecules - phosphatidylcholine, -inositol, and -ethanolamine, with a fatty acid profile closely resembling that of brain phospholipids. This makes krill oil highly absorbable and bioavailable, as these essential fatty acids do not have to be converted in the body into cell membrane-ready phospholipids.

Thorne's Krill Oil is an exceptionally pure product - with no measureable mercury, lead, cadmium, or PCBs. Krill Oil is also a highly stable product without the use of preservatives. Its high bioavailability allows lower dosages (typically 1 to 2 capsules twice daily). Unlike many fish oil products, Krill Oil causes no GI upset or "fish oil burping." A study comparing the effects of Neptune Krill Oil™(NKO) to fish oil found NKO to be superior for dysmenorrhea and the emotional symptoms associated with PMS. A clinical study found NKO significantly decreased total cholesterol, LDL cholesterol, and triglycerides. Compared to fish oil, 1.5 g NKO was more effective than 3 g fish oil in reducing LDL cholesterol and glucose. An animal study found NKO provided effective prevention of UV-induced skin cancer.

Krill is harvested in Antarctica in compliance with the landmark Antarctic Treaty, which strictly regulates the annual krill harvest to protect sea animals that depend on krill for food.



## Krill Oil

### Supplement Facts

Serving Size: One Gelcap Servings Per Container: 60

Each Gelcap Contain:		% DV
Calories	4.3	
Calories from Fat	3.2	
Total Fat	0.4 g	0.5%*
Saturated Fat	0.2g	1%*
Trans Fat	0 g	0%*
Cholesterol	8 mg.	3%
EPA (eicosapentaenoic acid)	75 mg.	**
DHA (docosahexaenoic acid)	45 mg.	**
Omega-6 Fatty Acids	10 mg.	**
Omega-9 Fatty Acids	30 mg.	**
Phospholipids	200 mg.	**
Astaxanthin	0.8 mg.	**
Choline	38 mg.	**

\*Percent Daily Values are base on a 2,000 calorie diet.

\*\*Daily Value (DV) not established.

Other Ingredients: Gelatin capsule (gelatin, water and glycerine).

Contains ingredient derived from shellfish (krill).

60 Gelcaps  
Code: SP612  
Dosage: 1 to 2 gelcaps bid

## Introducing Fish Gelatin Softgels!

Over five years ago Thorne was one of the first dietary supplement manufacturers to switch to vegetarian hard gelatin capsules. However, the technology at that time did not allow us to switch to a non-bovine gelatin source for our softgel capsules. We at Thorne Research are very proud to announce the conversion of our softgel capsules to a fish-based gelatin source! At this time our fish oil, Black Currant Oil, and CoQ10 products are in the new fish-based softgels. This change is another example of our commitment to you and your patients to provide the purest, safest dietary supplements in the professional market.

### Omega Plus™

#### Supplement Facts

Serving Size: One Gelcap Servings Per Container: 90

Each Gelcap Contains:		% DV
Calories	10	
Calories from Fat	10	
Total Fat	1.1 g.	2%*
Saturated Fat	0.3 g.	2%*
GLA (Gamma Linolenic Acid) from Borage Oil	40 mg.	**
EPA (Eicosapentaenoic Acid)	180 mg.	**
DHA (Docosahexaenoic Acid)	120 mg.	**

\* Percent Daily Values are based on a 2,000 calorie diet  
\*\* Daily Value (DV) not established.

Other Ingredients: Gelatin, Glycerin Gelcap, Vitamin E (d-Alpha tocopherols).

Contains ingredient derived from fish (EPA/DHA = sardine, anchovy, mackerel).

90 Gelcaps  
Code: SP607  
Dosage: 2 gelcaps tid

### Black Currant Oil

#### Supplement Facts

Serving Size: One Gelcap Servings Per Container: 60

Each Gelcap Contains:		% DV
Calories	6	
Calories from Fat	6	
Total Fat	0 g.	0%*
Saturated Fat	0 g.	0%
Gamma Linolenic Acid (from Black Currant Oil)	100 mg.	**

\* Percent Daily Values are based on a 2,000 calorie diet.  
\*\* Daily Value (DV) not established.

Other Ingredients: Gelatin, Water and Glycerin Gelcap, Vitamin E (d-Alpha tocopherol).

60 Gelcaps  
Code: SP602  
Dosage: 2 gelcaps bid - tid

also available  
180 Gelcaps  
Code: SP604

### Omega Plus™

#### therapeutically-balanced omega-3 and omega-6 fatty acids

While omega-3 fatty acids have significant health benefits, the omega-6 fatty acid gamma-linolenic acid (GLA) offers similar anti-inflammatory, vasodilatory, smooth muscle relaxing, and anti-platelet aggregation effects. Borage oil is a rich source of GLA - higher than evening primrose oil. Omega Plus provides an omega 3:6 ratio designed to provide a healthful balance of these important EFAs. Because the typical diet contains significantly more omega-6 than -3 fatty acids, fish oils make up a greater percentage of the product. Clinical studies yielding positive benefits from the combination of omega-3 fatty acids and GLA include cardiovascular disease, asthma, acute respiratory distress syndrome, and osteoporosis. Studies have found a combination of GLA with EPA and DHA improves LDL:HDL ratios and triglyceride levels.

### Black Currant Oil

#### a rich source of gamma linolenic acid

If GLA is the priority, Black Currant Oil may be the best choice, containing 18-percent GLA. In addition, it contains 9-percent stearidonic acid, a precursor to the omega-3 fatty acid EPA. GLA has been found to provide benefit for a wide variety of conditions, including rheumatoid arthritis, atopic eczema, premenstrual syndrome, diabetic neuropathy, dry eye syndrome, and attention deficit disorder. GLA exerts an anti-thrombotic effect by decreasing platelet aggregation and thromboxane formation.



## Normalizing Cardiac Risk Factors

	↑Endothelial function/NO	↓Blood Pressure	↓Homocysteine	↓Total cholesterol	↓LDL cholesterol	↑HDL cholesterol	↓TGs	↓Thrombin/fibrin	↓CRP	↓Lipo (a)	↑ApoA	↓ApoB	↓Platelet aggregation
Perfusia-SR	X	X					X		X				X
Cholest				X	X		X		X				
Policosanol			X	X	X								X
Niasafe-600				X	X	X	X	X		X	X		
Super EPA	X			X	X	X	X					X	X
Krill Oil	X			X	X	X	X					X	X
Ultimate-E									X				X
Pantethine				X	X	X	X				X	X	
Methyl-Guard	X		X										
L-Carnitine							X						
Taurine	X	X		X		X	X						
Lycopene				X	X								
Phosphatidyl Choline				X								X	
Lactobacillus sporogenes				X									
Coenzyme Q10	X	X											
Pharmacol-40				X	X								
Omega-3 w/CoQ10	X	X		X	X	X	X					X	X
Q10 Plus	X	X											X
NeoCardio		X						X					X
Omega Plus	X		X	X	X	X						X	X
Black Currant Oil				X	X	X	X	X					X

## Lipid Metabolism Program

### nutritional support for maintaining normal cholesterol and triglyceride levels

- maintain optimal lipid levels naturally
- support cholesterol and triglyceride metabolism
- promote mitochondrial energy production

Elevated levels of total cholesterol in the blood, as well as increased LDL to HDL cholesterol- and total to HDL cholesterol- ratios, are significant risk factors for the development of cardiovascular disease. Cholesterol is derived from dietary and metabolic sources, both of which can be modified to support optimal blood levels. A lifestyle modification program for normalizing blood lipids should include healthful dietary habits, including reducing or eliminating red meat, saturated fat, dairy, refined grains, and refined sugar consumption. The diet should include an abundance of high-fiber foods such as fresh fruits and vegetables, as well as lean meats like chicken and turkey, and omega-3 fatty acid-containing cold-water fish. If the patient drinks alcoholic beverages, moderate consumption should be encouraged. Since excess sugar consumption can increase cholesterol and triglycerides, special care should be taken to ensure proper blood sugar levels. A program of aerobic exercise, weight loss, and smoking cessation, if appropriate, should be encouraged and supported.

A number of nutrients, botanicals, and other substances support the normal metabolism of lipids in the body. The following guidelines include supplements previously mentioned in this booklet, with suggested doses to optimize blood lipid levels.

#### for optimal results, the following supplements are advised:

1. Choleast: 2 to 4 capsules twice daily (inhibits cholesterol synthesis)\*
2. Perfusia-SR: 2 capsules twice daily (enhances endothelial nitric oxide production, optimizes vascular health, increases blood flow)\*

#### optional products, for increased effect and/or support:

3. Pharmacol-40: 3 capsules once daily with evening meal (to inhibit cholesterol re-absorption)\*
4. Omega-3 w/CoQ10, Super EPA or Krill Oil: 1 to 3 capsules twice daily (to lower triglycerides and improve blood vessel function)\*
5. Pantethine: 2 capsules twice daily (to help normalize cholesterol synthesis)\*
6. L-Carnitine: 2 to 3 capsules twice daily (to normalize triglyceride levels)\*
7. Phosphatidyl Choline: 3 capsules 2 to 3 times daily (to increase hepatic fat metabolism, especially in patients with fatty liver)\*
8. Lactobacillus Sporogenes: 1 capsule 2 to 3 times daily (to inhibit cholesterol synthesis and re-absorption, especially if intestinal dysbiosis is present)\*
9. Niasafe-600: 1 to 3 capsules three times daily (to further inhibit cholesterol synthesis)\*
10. Policosanol: 1 to 2 capsules twice daily (if above does not reach target goals)



## Cardiovascular Support Program

### supportive nutrients and botanicals for cardiovascular function

- optimize nitric oxide production
- increase blood flow
- support normal homocysteine metabolism
- antioxidant cardioprotection

Poor diet, reduced physical activity, poor lipid metabolism, inherited metabolic challenges, and numerous disease processes can all negatively affect the cardiovascular system. Research has discovered many nutrients that are supportive of cardiovascular health and function, including specific amino acids, B-vitamins, antioxidants, and fatty acids. Additionally, botanicals and botanically-derived substances (such as flavonoids) have demonstrated safe and beneficial cardioprotective and cardiotonic activity.

As with the lipid metabolism recommendations on the previous page, the cardioprotective diet should be rich in fiber and phytonutrients supplied by copious amounts of fresh fruits and vegetables, health-promoting fatty acids (including olive oil and fish), lean meats, moderate alcohol consumption, and minimal refined carbohydrates and saturated fat. A heart-healthy lifestyle, including aerobic exercise, weight loss, and smoking cessation should also be adopted.

### for optimal results, the following supplements are advised:

1. Perfusia-SR: 2 capsules twice daily (enhances endothelial nitric oxide production, optimizes vascular health, increases blood flow)\*
2. Q10 Plus: 2 to 4 capsules twice daily (enhances cardiac function)\*  
OR Co-Q-100: 1 to 2 capsules twice daily (enhances energy production in heart muscle)\*
3. Super EPA or Krill Oil: 1 to 3 capsules twice daily (synergistic with Perfusia-SR - optimizes vascular health, increases blood flow, improves lipid metabolism)\*  
OR Omega-3 w/CoQ10: 1 to 3 capsules twice daily (provides fish oil omega-3's and CoQ10)

### optional products, for increased effect and/or support:

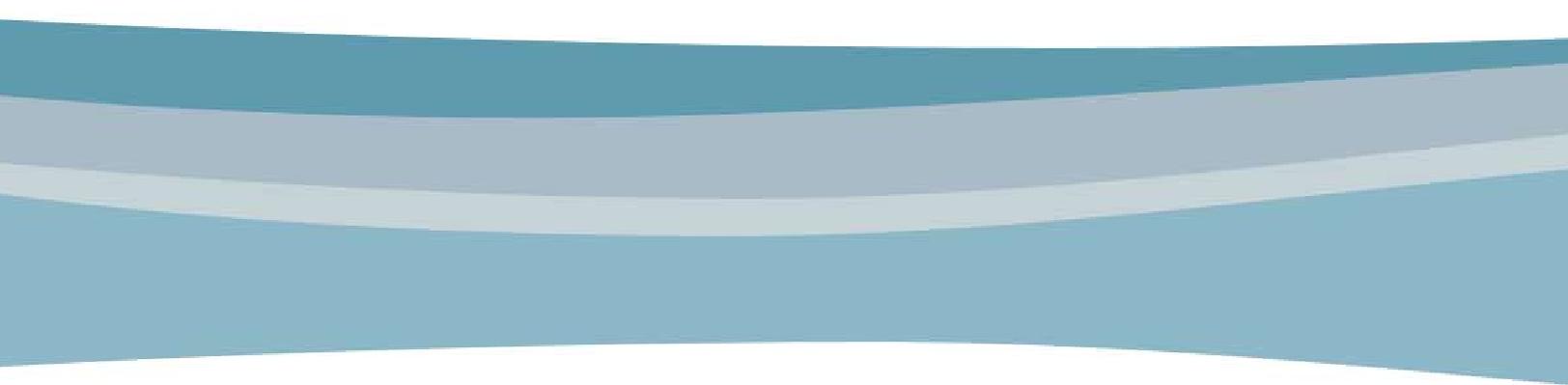
4. Methyl-Guard: 3 capsules twice daily (lowers homocysteine, enhances endothelial nitric oxide production)\*
5. Neo-Cardio: 1 to 2 capsules three times daily (cardiotonic, improves cardiac function, supports normal blood pressure)\*
6. Taurine: 1 capsule twice daily (improves myocardial metabolism)\*
7. Ultimate E: 1 capsule once or twice daily (protects LDL from oxidation)
8. L-Carnitine: 2 to 3 capsules twice daily (improves myocardial metabolism)\*
9. Lycopene: 1 to 3 capsules twice daily (antioxidant, reduces cardiovascular risk)\*



Thorne Research has been manufacturing the finest nutritional supplement products and supplying them to health-care providers around the world for over 20 years. Only the purest raw materials are used in our product line - which includes over 280 products.

Our cardiovascular-related line of products offers an unparalleled selection, including numerous products for cardiovascular support (CoQ10, essential fatty acids, antioxidants, homocysteine-lowering substances, amino acids, and more) and lipid metabolism (red yeast rice, policosanol, Pharmacol-40, pantethine, carnitine, and more).

Thorne products offer safety, efficacy, and quality you can rely on, and are made using the strictest manufacturing standards possible. This guide has been designed to specifically help the practitioner incorporate Thorne cardiovascular products and protocols into their busy practice. For added support, Thorne Research has physicians on staff to answer any protocol questions, at 800-228-1966, or [info@thorne.com](mailto:info@thorne.com).



## Resources

### **The Arginine Solution: The First Guide to America's New Cardio-Enhancing Supplement**

by: James Thornton, MD, Woodson Merrell, MD, and Robert Fried, PhD Warner Books. ISBN 00446523909

### **Controlling Cholesterol the Natural Way: Eat Your Way to Better Health with New Breakthrough Food Discoveries**

by: Kenneth H. Cooper, MD Bantam Press. ISBN 0553582100

### **NO More Heart Disease: How Nitric Oxide Can Prevent – Even Reverse – Heart Disease and Stroke**

by: Louis J. Ignarro, MD St. Martin Press ISBN 0312335814

### **Dr. Dean Ornish's Program for Reversing Heart Disease**

by Dean Ornish, MD. Ivy Books. ISBN 0804110387

### **Questions from the Heart: Answers to 100 Questions About Chelation Therapy, a Safe Alternative to Bypass Surgery**

by: Terry Chappell, MD and Julian Whitaker, MD Hampton Roads. ISBN 1571740260 (1996)

Because of ongoing research, development, clinical experience, and the rapid accumulation of information relating to the subject matter in this caregiver's guide, the reader is urged to carefully review and evaluate the information provided herein. The information contained herein cannot be warranted as being accurate and complete in every respect because new research and clinical experience continue to expand and broaden the knowledge pertaining to the subject matter of this guide. Therefore responsibility is disclaimed for any adverse effect resulting from the use or application of any of the information contained in this guide. The use or application of the information contained in this guide is at the sole discretion and risk of the intended health-care professionals who read it.

Cardiovascular Support and Lipid Metabolism Program products are available exclusively from Thorne Research, Inc., through licensed health-care practitioners.



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