



Neurochondria™

A complete formula for neurological support

**A Superior Formulation
in the Fight Against
Neurodegeneration**

**Therapeutic Levels of
Research-Based Nutrients for
Neurological Support**

**All-in-One Product Convenience
for Improved Patient Compliance**

**An Incredible Cost Savings Over
Individually Purchased Items**

There are numerous conditions associated with neurodegeneration. These conditions are becoming more and more prevalent in the United States as a result of increased lifespan, environmental toxicity, and poor diet with subsequent nutrient deficiencies.

The incidence of diabetes in the United States has also reached epidemic proportions. In addition to the direct effects of high blood sugar, secondary consequences include neurological damage resulting in autonomic and peripheral neuropathies.

Mitochondrial insufficiencies appear to be at the root of neurodegeneration. The mitochondria, important cellular powerhouses, are also a significant source of free radical production, even in healthy individuals. The aging process, poor diet, and environmental toxins stress the body's endogenous antioxidant system, rendering it less capable of quenching free radicals.

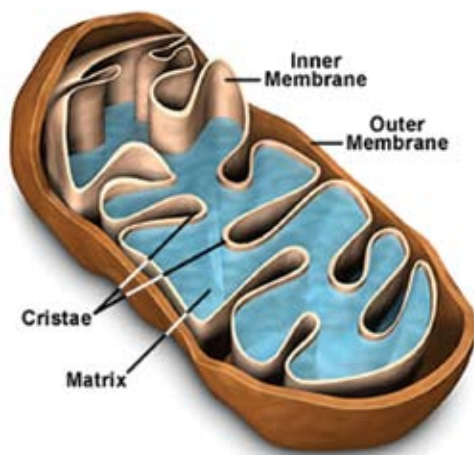
Thorne Research introduces Neurochondria ... a superior formulation in the war against neurodegeneration! This revolutionary new product includes the best-researched nutrients for neurological support: benfotiamine, coenzyme Q10, R-lipoic acid, reduced glutathione, acetyl-L-carnitine, phosphatidylserine, methylcobalamin, and 5-methyltetrahydrofolate (5-MTHF).

The Science Behind Neurochondria

Neurochondria provides key nutritional factors for neurological system support in therapeutic doses.

Conditions associated with neurodegeneration and/or mitochondrial insufficiency:

Parkinson's disease
Alzheimer's disease
Multiple sclerosis
Amyotrophic lateral sclerosis
Diabetes (peripheral and autonomic neuropathy)
Friedrich's ataxia
Huntington's disease
Down syndrome
Seizures
Post-stroke
Drug-induced neurotoxicity



Benfotiamine, a fat-soluble, highly bioavailable thiamine (vitamin B1) derivative, offers at least five-fold greater plasma thiamine levels than water-soluble thiamine salts. Benfotiamine blocks three major biochemical pathways involved in glucose-induced neurological damage – thus helping prevent diabetic neuropathy. Benfotiamine also effectively corrects a thiamine deficiency, providing a superior form of vitamin B1 for prevention of neuropathies associated with alcohol abuse.

Coenzyme Q10 (CoQ10) is essential for normal mitochondrial function and – ultimately, energy production – in its key role as an electron shuttle in oxidative phosphorylation. In addition, it provides potent antioxidant activity in the inner mitochondrial membrane. A deficiency of CoQ10 can result in muscle degeneration and central nervous system (CNS) dysfunction. Cholesterol-lowering “statin” drugs not only inhibit the synthesis of cholesterol but also CoQ10. Thus, the peripheral neuropathy associated with the use of statin drugs may be a result of a CoQ10 deficiency.

Alpha-lipoic acid (ALA), provided in the active, R-lipoic acid form for optimal absorption and utilization, is an important CNS antioxidant because it readily crosses the blood-brain barrier. Its ability to provide activity in both fat- and water-soluble environments allows it to quench free radicals within the cell membrane as well as the cytosol. In addition to its own potent antioxidant effects, ALA is capable of regenerating glutathione. ALA is also a cofactor for two mitochondrial enzymes that are key to energy production. In addition, ALA enhances insulin sensitivity and provides important neurological protection from the effects of high blood glucose.

Reduced glutathione (GSH) is an essential endogenous antioxidant that decreases with age and is depleted during detoxification processes. A deficiency of GSH can result in abnormal nerve conduction. Supplementation of GSH has been found to prevent neurotoxicity associated with cancer chemotherapy drugs such as the platinum compounds (cisplatin, oxaliplatin).

KEY REFERENCES:

Kidd P. Parkinson's disease as multifactorial oxidative neurodegeneration: Implications for integrative management. *Alternative Medicine Review* 2000;5(6):502-545.

Kidd P. Multiple sclerosis, an autoimmune inflammatory disease: Prospects for its integrative management. *Alternative Medicine Review* 2001;6(6):540-566.

Kidd P. Neurodegeneration from mitochondrial insufficiency: Nutrients, stem cells, growth factors, and prospects for brain rebuilding using integrative management. *Alternative Medicine Review* 2005;10(4):268-293.

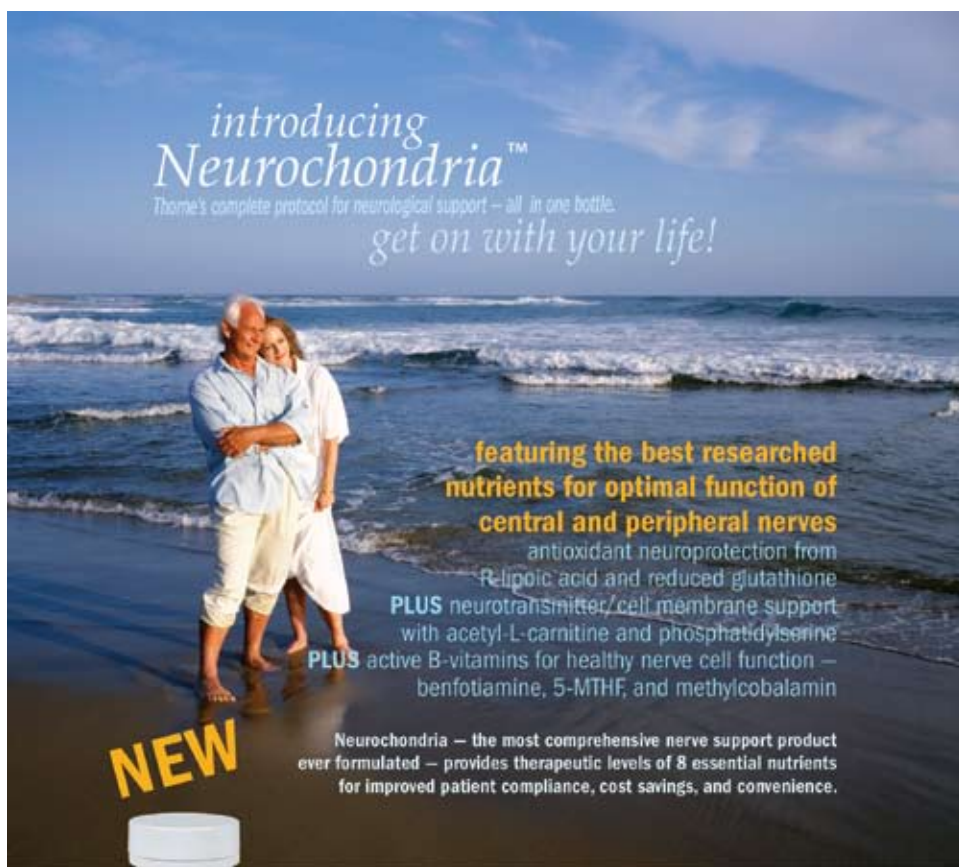
Head K. Peripheral neuropathy: Pathogenic mechanisms and alternative therapies. *Alternative Medicine Review* 2006;11(4):294-329.

Acetyl-L-carnitine (ALC) facilitates energy production by transporting fatty acids into the mitochondria, boosting ATP production. ALC is believed to cross the blood-brain barrier more efficiently than L-carnitine. A study of individuals who had suffered hypoxic stroke damage found ALC appeared to enhance brain cell survival. In an animal model, ALC was found to enhance nerve growth factor (NGF) binding capacity – a function essential to proper communication among neurons in the CNS and periphery.

Phosphatidylserine, an essential phospholipid in nerve cell membranes, has also been found to affect nerve growth factor by enhancing NGF-receptor density. Phosphatidylserine enhances mitochondrial function because it is a precursor to phosphatidylethanolamine, a major phospholipid in mitochondrial cell membranes.

Methylcobalamin, one of two active forms of vitamin B12, may provide protection from neurodegeneration. Vitamin B12 deficiency is associated with significant neurological dysfunction. In an experimental animal model, methylcobalamin stimulated nerve regeneration. In clinical trials, methylcobalamin was found to benefit neuropathies associated with high blood sugar and uremia.

5-methyltetrahydrofolate (5-MTHF) is the active form of folic acid. Folic acid deficiencies have been implicated in the development of neuropathies. One of the mechanisms believed to be at play in vitamin B12 deficiency-associated neurological dysfunction is hypomethylation in the CNS. Methylation of homocysteine to methionine requires both methylcobalamin and 5-MTHF.



introducing
Neurochondria™
Thorne's complete protocol for neurological support – all in one bottle.
get on with your life!

featuring the best researched nutrients for optimal function of central and peripheral nerves
antioxidant neuroprotection from R-lipoic acid and reduced glutathione
PLUS neurotransmitter/cell membrane support with acetyl-L-carnitine and phosphatidylserine
PLUS active B-vitamins for healthy nerve cell function – benfotiamine, 5-MTHF, and methylcobalamin

NEW

Neurochondria – the most comprehensive nerve support product ever formulated – provides therapeutic levels of 8 essential nutrients for improved patient compliance, cost savings, and convenience.



now available from Thorne Research
this product and more...
call customer service at
800-228-1966 and ask for
our new catalog and details
on **Neurochondria plus**
our other new products

While some companies say
they are taking their standards
... at Thorne, we set them.™



email: info@thorne.com
website: www.thorne.com
toll free: 800-228-1966
toll free fax: 800-747-1960
P.O. Box 25, Deer Isle, ME 03525

Supplement Facts

Serving Size: Three Capsules
Servings Per Container: 30

Three Capsules Contain:		% DV
Thiamine (as Benfotiamine)	150 mg.	10,011%
Vitamin B12 (as Methylcobalamin)	1500 mcg.	25,020%
Folate (as 5-Methyltetrahydrofolate)	300 mcg.	75%
Coenzyme Q10	150 mg.	*
R-Lipoic Acid	120 mg.	*
Reduced Glutathione	150 mg.	*
Acetyl-L-Carnitine	300 mg.	*
Phosphatidylserine	150 mg.	*

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.
Contains ingredient derived from soy.

all-in-one **Neurochondria™**

90 Vegetarian Capsules
Code: SF738
Dosage: 3 capsules bid

If your patient was to purchase the eight individual
neurological support supplements contained in
Neurochondria it would cost well over \$100.00

... all-in-one Neurochondria™ saves your patient up to 40%!

**a superior formulation in the
war against neurodegeneration!**



Get better patient
compliance by offering
one complete formula
vs. up to eight individual
products to achieve
the same results!



email: info@thorne.com
website: www.thorne.com
toll free (800)228-1966
toll free fax (800)747-1950
P.O. Box 25, Dover, Idaho 83825