Vascu-Flow

Nutura™

DESCRIPTION:

Cardiovascular disease is the leading cause of death for both males and females in the United States; it claims more lives than all other diseases combined. Worldwide it is estimated that more than 12 million people die every year from cardiovascular disease. As we age, the heart and arteries become more susceptible to diseases including high blood pressure and atherosclerosis. By age 80 men are nine times more likely to die of chronic heart failure than at age 50. Among women, this risk increases 11-fold over the same period. Poor lifestyle choices – smoking, lack of exercise, high-fat diet, cholesterol and sodium contribute to the development of cardiovascular diseases. However, with advancing age the arteries undergo changes – including arterial stiffening and thickening, which are major risk factors for cardiovascular disease. Age related changes also make it easier for fatty deposits to build up on the inside of the arteries. How well your arteries perform depends on a series of complex interactions, which include age, disease, lifestyle and genetics.

The endothelium is the layer of thin, flat cells that lines the interior surface of blood vessels. People who maintain a healthy endothelium can reduce the risk of heart attacks and strokes caused by atherosclerosis or hypertension. Robert F. Furchgott, Ph.D. New York, Louis J. Ignarro, Ph.D. of UCLA, and Ferid Murad, M.D., Ph.D. of the University of Texas at Houston won the 1998 Nobel Prize in medicine for their work on "Nitric Oxide as a Signaling Molecule in the Cardiovascular System". Endothelial cells produce nitric oxide. Nitric oxide relaxes arteries to help maintain normal blood pressure, increases oxygen supply, protects the heart from damage and cell death, is a mediator in inflammation, and is a potent free radical scavenger.

To make nitric oxide, endothelial cells need L-arginine and an enzyme called nitric oxide synthase (NOS). Normal endothelial cells have plenty of L-arginine and NOS, but in aging blood vessels NOS can be in short supply. Even if sufficient amounts of nitric oxide are produced, it can still be inactivated by oxygen free radicals. Without adequate levels of biologically available nitric oxide, endothelial cells in the intima can't function properly. Some researchers consider decreased availability of nitric oxide in the endothelium to be one of the earliest signs of arterial aging and high blood pressure.

The good news is that studies strongly suggest that exercise, good nutrition, and neutraceutical therapies can slow the aging of arteries – even among people who are genetically at risk. These interventions could delay or prevent the onset of cardiovascular disease in many older people. It is imperative to find out the health of your arteries before clinical disease sets in so appropriate measures can be taken.

ACTIVES:

L-arginine- Taking L-arginine increases the amount of nitric oxide in the body. Three American scientists won the prestigious Nobel Prize in medicine in 1998 for their discovery that the body uses nitric oxide to make blood vessels relax and widen. Arginine derived nitric oxide (ADNO) has many cardiovascular benefits:

- Lowers blood pressure by relaxing the smooth muscle around the arteries enabling them to vasodilate allowing better blood flow.
- Helps with arteriosclerosis and atherosclerosis by reducing serum cholesterol and plaque formation. L-arginine has been shown to remove existing plaque.
- Benefits those with erectile dysfunction by improving blood flow to the penis.
- Improves long-term memory function by ensuring blood flow to the brain cells.
- Promotes the release of the anti-aging human growth hormone (HGH).
- Is a powerful anticoagulant preventing clots that can cause heart attack and stroke.
- Helps regulate insulin secretion by the pancreas, thereby reducing the risk of diabetes.
- Is a powerful antioxidant that prevents the oxidation of LDL cholesterol preventing plaque formation in the arteries.
- L-arginine has been used for years to aid in wound healing.

L-citrulline- Aids in the absorption and utilization of L-arginine in the body.

30 servings per container

One scoop (approx. 7 grams) provides:

L-Arginine	3,000 mg
L-Citrulline	200 mg
Magnesium (as Di-Magnesium Malate)	300 mg
Pomegranate Extract (whole fruit, standardized to 40% total punicosides including punicalagins and punicalin)	75 mg
Malic Acid (from Di-magnesium malate)	1,140 mg
Potassium (as potassium aspartate, as Albion® Amino Acid Chelate)	99 mg

Other ingredients: orange flavor, citric acid and acesulfame potassium.

Di-Magnesium Malate is covered by Albion International, Inc. U.S. Patent 6,706,904 and patents pending.

CLINICAL INDICATIONS:

- *Hypertension*
- *Arterialsclerosis*
- *Atherosclerosis*
- *Erectile Dysfunction*
- *Arrhythmias*
- *Fibromyalgia*
- *Diabetes*

SUGGESTED USAGE: Adults take one level scoop once or twice daily, or as directed by a health care professional.

CONTRAINDICATIONS: Renal failure & hyperkalemia

DRUG INTERACTIONS:

Magnesium may decrease absorption of bisphonates & quinolones.

Vascu-Flow continued...

ACTIVES CONTINUED:

Magnesium- helps lower blood pressure because of its vasodilatory activity via its acting as a natural calcium channel blocker. This calcium channel blocker activity along with magnesium's calming effect via the parasympathetic nervous system and its role in maintaining intracellular potassium makes it very effective at treating arrhythmias as well.

Vascu-Flow utilizes a special form of magnesium called DiMagnesium Malate. DiMagnesium Malate is a patented form that combines both magnesium and malic acid. This offers several advantages over other forms of magnesium. This form gives you the therapeutic advantages of malic acid as well as magnesium. DiMagnesium Malate offers superior solubility and miscibility over citrates, carbonates and oxides. Plus it will not react with stomach acid and cause gas and acid rebound as with these other forms.

Pomegranate- contains a higher level of polyphenol antioxidants than red wine, green tea, cranberries and blueberries. These antioxidants are extremely effective at:

• Neutralizing damaging free radicals.

• Preventing oxidation of LDL cholesterol thereby preventing plaque build-up in blood vessels. A study of 19 patients from 65 to 75 years of age with severe carotid artery stenosis (70-90 percent occlusion) reduced carotid artery thickness by 35 percent by drinking 8.3 ounces of pomegranate juice a day for one year.

• Preserving nitric oxide, by protecting the endothelial cells that line blood vessels from oxidative stress. These cells produce nitric oxide, a key chemical that helps the blood vessels relax. Researchers found that a 50 percent increase in nitric oxide production reduced the rate of plaque build-up by 30 percent. Nitric oxide is very important for regulating blood flow and maintaining vessel health.

• Lowering blood pressure by reducing plaque and relaxing the smooth muscle around the arteries allowing better blood flow. Research conducted by professor Michael Aviram over a three-year period showed that pomegranate significantly lowered the systolic blood pressure in hypertensive patients in just two weeks. The patient's ACE activity was significantly decreased by 36 percent. The study concluded that pomegranate offers a wide protection against cardiovascular diseases.

Malic Acid- is synthesized by the body through the citric acid cycle (Kreb's Cycle) it is involved in the production of energy in the body under both aerobic and anaerobic conditions. Malic acid reverses hypoxia's inhibition of glycolysis and its production. It is this action under anaerobic conditions that allows malic acid to improve energy in patients with fibromyalgia. Both magnesium and malic acid play critical roles in the production of ATP in aerobic and anaerobic (hypoxic) conditions. Researchers at the University of Texas Health Science Center found that a combination of 1200 mg of malic acid with 300 mg of magnesium taken twice daily for 2-6 months greatly improved energy levels, muscle function and reduced pain scores on fibromyalgia.

Potassium- is important in the contraction of the cardiac, skeletal and smooth muscle, the production of energy and the maintenance of normal blood pressure. Studies suggest that diets high in potassium may be protective not only against hypertension, but also strokes and cardiovascular disease as well. A major meta-analysis examined data from 33 randomized, controlled trials involving 2,609 subjects found that low potassium intake is an important contributor to hypertension and that increased potassium intake can both treat and prevent hypertension.

REFERENCES:

1. Adams MR, McCredie R, Jessup W, et al. "Oral L-arginine improves endothelium-dependent dilatation and reduces monocyte adhesion to endothelial cells in young men with coronary artery disease." *Atherosclerosis*. 1997; 129:261-269.
2. Barbul A, Sisto DA, Wasserkrug HL, Efron G. "Arginine stimulates lymphocyte immune response in healthy human beings." *Surgery*. 1981; 90:244-251.
3. Chen J, Wollman Y, Chernichovsky T, et al. "Effect of oral administration of high-dose nitric oxide donor L-arginine in men with organic erectile dysfunction: results of a double-blind, randomized, placebo-controlled study." *BJU Int*. 1999; 83:269-273.
4. Lubec B, Hayn M, Kitzmü ller E, et al. "L-arginine reduces lipid peroxidation in patients with diabetes mellitus." *Free Rad Biol Med*. 1997; 22:355-357.
5. Wascher TC, Posch K, Wallner S, et al. "Vascular effects of L-arginine: anything beyond a substrate for the NO-synthase?" *Biochem Biophys Res Commun*. 1997; 234:35-38.
6. Addison WLT. "The use of sodium chloride, potassium chloride, sodium bromide and potassium bromide in cases of arterial hypertension which are amenable to potassium chloride." *Can Med Assoc J*. 1928; 18:281-285.
7. Ishimitsu T, Tobian L. "High potassium diets reduce endothelial permeability in stroke-prone spontaneously hypertensive rats." *Clin Exp Pharmacol Physiol*. 1997; 23:241-245.
8. Claudio Napoli M.D. "Pomegranate Juice Cuts Cardiovascular Risks." *Proceedings of the National Academy of Sciences*. March 21-25, 2005.
9. Aviram, Michael and Leslie Dornfield. "Pomegranate juice consumption inhibits serum angiotensin converting enzyme activity and reduces systolic blood pressure." *Atherosclerosis* 158 (2001) 195-198.
10. Messinger, Lanny. "Pomegranate for Cancer and Heart Disease." Health Freedom Network.
11. Paolisso G and Barbagallo M. Hypertension, Diabetes Mellitus and Insulin Reistance (The role of intracellular magnesium). *Am J. Hypersens* 1997;10:346-355.
12. Maier JA. "Low Magnesium and artherosclerosis: an evidence-based link." *Mol Aspects Med*. 2003 Feb 6; 24(103): 137-46.
13. Casscells W. "Magnesium and myocardial infarction." *Lancet*. 1994; 343:807-809.
14. Iseri LT, French JH. "Magnesium: nature's physiologic calcium blocker." *Am Heart J*. 1984; 108:188-193.
15. Lim R, Herzog WR. "Magnesium for cardiac patients: is it a valuable treatment supplement?" *Contemp Int Med*. 1998; 10:6-9.
16.Abraham GE and Flechas JD. "Management of Fibromyalgia: Rationale for the Use of Magnesium and Malic Acid." Journal of Nutritional Medicine. (1992)3, 49-59 AA.
17. Russell IJ; Michalek JE; Flechas JD; Abraham GE. "Treatment of fibromyalgia syndrome with Super Malic: a randomized, double blind, placebo controlled, crossover pilot study." J Rheumatol. (1995) May; 22 (5):953-8.
18. Young Z, Floyd DL, Loeber G, Tong L. "Structure of a closed form of human malic enzyme and implications for catalytic mechansim." *Nature Struct Biol*. 2000; 7:251-257.