

I N N A T E

RESPONSE FORMULAS®

V i s m e d i c a t r i x n a t u r a e

Men Over 40

100% Whole Food Foundational Dietary Supplement

Formula Rationale

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Men Over 40 Innate Response Formulas®

Rationale

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As we age our body goes through many changes and a man over 40, has special nutritional challenges. Climacteric, the physical and emotional transition into the third chapter of a man's life, is an important time of change. Nutritional support of the male physiology is important for optimal health and vitality.

As men age their chances of developing prostate problems increase. Benign prostate hyperplasia (BPH) affects about 50% of all men 40-50 years old and 70% of those over 70. BPH is enlarged prostate, which can block urinary flow, cause urinary urgency, decreased sexual pleasure, urinary retention, kidney infection, stone formation, immune depletion and irritability.

Cardiovascular health is another area of concern. By 1990, Cardiovascular disease (CVD) had become an epidemic with over 67 million Americans, mostly men, suffering. It is the leading cause of death. Most CVD is related to diet. Anti-oxidants, such as vitamin E, combined with a diet low in animal fat and hydrogenated oils, high in fiber, fresh vegetables and fruits have been shown to be effective protective measures against many forms of heart disease. Moderate exercise on a regular basis and stress reduction are also important factors to consider.

With age the body's capacity for adaptation decreases. Basic kidney and digestive metabolic rates decrease, hormonal production slows down. Cell reproduction decreases as does production of collagen and elastin, which effects our skin and other tissue including that of the vascular system. The ability to develop antibodies and thymus hormone levels diminish with age, so we become more vulnerable. Immune support becomes increasingly important.

Men Over 40 is specially crafted to target all the organ systems of a man's body with whole food nutrition and tonic herbs for optimal well being.

Whole Herb Extracts:

Carefully selected from revered herbs that have been proven through time to assist in adaptation to stress, possess powerful free radical scavenging activity and act as tonics for every system of a man's body. Many of these precious botanicals have multiple anti-aging components not found in most diets.

Saw Palmetto Berry (*Serenoa serrulata*, *Serenoa repens*)

Saw Palmetto Berry is a Native American botanical that has been traditionally used as a male tonic. Numerous clinical studies demonstrate that Saw Palmetto supports prostate health and function. This tonic supports the reproductive system and urinary tract with support for the prostate gland, which often requires additional support during this phase of a man's life. Strengthens, nourishes and tones the tissues of the entire genital-urinary system. The fatty acids in these berries contain phyto-sterols that support and enhance male hormones as needed. Strengthens the male reproductive system.

Actions: Diuretic, urinary antiseptic, endocrine agent

Constituents: essential oil, 25% fatty acids: caproic, lauric, palmitic & 75% neutral fats; sterols, polysaccharides; galactose, arabinose & uronic acid.

Ashwaganda Root (*Withania somnifera*)

This adaptogenic herb has been revered in the Ayurvedic healing tradition for over 2,500 years for its benefits as a vitalizer and rejuvenative that increases the body's non-specific resistance to disease. Ashwagandha is traditionally used for general strengthening and recovery. An excellent adaptogen that enhances stress response and helps with general resistance to environmental factors. Ashwaganda supports the adrenal glands and nervous system. Considered an excellent reproductive tonic that helps restore sexual vitality. Helpful with insomnia and mental strength. Strengthening to the muscular-skeletal system as well, making this a wonderful tonic. In India several parts of the plant are used including the bark, roots, berries and leaves. Ashwaganda has been used in treatment of Chronic Fatigue Syndrome, and is considered by some as a primary herb for this condition. A native herb in India,

a primarily vegetarian country, it is considered a perfect energy herb for vegetarians providing the stamina often associated with meat consumption. “*Withania somnifera* (Family solanaceae) is one of the plants used in Ayurveda to prevent or treat disease through the restoration of a healthy balance of life forces and an integrated relationship to the environment (Sharma, 1978).” *Withania somnifera* enhances physical performance with decreased stress response. A true support herb, Ashwaganda assists the body in rejuvenation, rebuilding and restoring the nervous system, musculature, and general vitality. Included in this formula for its adaptogenic support and rejuvenative action on the muscles, bones, connective tissue and nerves. In the Ayurvedic tradition it is recognized for the clarity of the mind and reducing restlessness in the mind.

Traditionally Ashwaganda is used for arthritis, asthma, bronchitis, cancer, fever, nausea, debility and for improved memory. Recent research indicates anti-tumor, antibiotic, immunomodulatory, anti-inflammatory and anti-ulcer properties. Research also indicates the mood elevating and anti-anxiety properties of Ashwaganda. In India both the scientific and medical communities are researching Ashwaganda for its abilities as a “GABA receptor agonist”. Many scientific studies substantiate the powerful rejuvenative benefits of this “Indian Ginseng”.

Constituents include: Withaferin A, one of the several withanolides (steroidal lactones), amino acids including, proline, valine, alanine, glycine, cystine, cysteine, glutamic acid, aspartic acid, tannins, and flavonoids.

Actions: tonic, rejuvenative, aphrodisiac, nervine, sedative, astringent and antihepatotoxic.

Eleuthero Root (*Eleutherococcus senticosus*)

This primary adaptogen, supports the body’s stress response, immune system and endocrine system including the adrenal glands, spleen, liver and thymus gland. The subject of numerous studies, this rejuvenative herb is revered internationally for enhancing longevity, improving general health, stamina, oxygen metabolism and memory. Research demonstrates a beneficial effect on modulation of blood pressure and cholesterol levels. Supports the nervous system and mental functions, while also assisting with depression. An effective antioxidant herb possessing, greater antioxidant activity than the Vitamins C and E. Key constituents are called eleutherosides. Research exhibits its radio-protective properties. Supports adjustment to high altitudes and athletic performance. A superior tonic, with the greatest benefits experienced after continuous use.

Actions: Adaptogen, tonic, radioprotective, antioxidant

Constituents: eleutherosides A-G

Schisandra Berry (*Schisandra chinensis*)

Called Wu Wei Zi because it is the five flavored fruit possessing all five tastes, sweet, sour, salty, bitter and pungent the Chinese revered it the promotion of longevity and vitality. Provides powerful antioxidant and antihepatotoxic properties protecting and supporting liver functions. Schisandra strengthen liver enzyme detoxification with studies showing enhancing effects on the glutathione enzyme system and Cytochrome P450. Classified as an adaptogen it therefore supports the health and functions of the adrenals, immune system and is a beneficial tonic for the entire body. Used to promote energy, stamina and performance, this is a wonderful tonic for a man this age even by itself. Also supports the urinary and digestive systems. Some say Schisandra has aphrodisiac properties, probably because of increased stamina and performance, which can be useful at this age.

Actions: adaptogen, hepato-protective, digestive tonic, astringent, antioxidant, cardio-protectant, anti-inflammatory

Constituents: Lignans (dibenzo [a,c] cyclooctadiene, dibenzylbutane) Gomisins A, schizandrins; volatile oils; natural acids including citric, malic, tartaric, fumaric; resins, essential fatty acids: linoleic acid, oleic acid, linolenic acid, lauric acid and palmitic acid;

Hawthorn Berry, Leaf and Flower (*Crataegus oxyacantha*)

Hawthorn is often thought of as the supreme cardiovascular tonic. Supports and enhances coronary blood flow, the contractions of the heart muscle, and acts as a hypotensive. Possesses powerful antioxidant action that has a protective effect on the heart and entire cardiovascular system. Shown to support the connective tissue of the body, an added benefit for a man this age.

Actions: Cardiotonic, diuretic, astringent, hypotensive

Constituents include: proanthocyanidins, flavonoids such as quercetin, hyperoside, vitexin, vitexin-rhamnoside and rutin, cardiotonic amines

Bilberry Fruit (*Vaccinium myrtillus*)

Contains abundant flavonoids, specifically anthocyanosides which are powerful antioxidants and vascular stabilizers. Studies show that the anthocyanosides from Bilberry act as vasoprotecting agents by strengthening capillary walls and reducing their permeability. Useful for varicose veins, capillary fragility, venous insufficiency, and blood flow to the brain. Supports night vision, visual fatigue and helps prevent serious eye disorders. Bilberry, cousin of our native Blueberry, supports circulation and the cardiovascular system. Research indicates it provides significant support for diabetics for hypertension and retinopathy.

Actions: antioxidant, general tonic, circulatory tonic

Constituents: five different anthocyanins, 15 anthocyanosides, polyphenols, flavonol glycosides

Rosemary Leaf (*Rosemarinus officinalis*)

Rosemary provides several important properties to this formula. Research has identified at least six constituents that support memory by helping to prevent the breakdown of acetylcholine which is important to memory functions and diminished levels of acetylcholine have been linked to Alzheimers disease. Rosemary is a culinary and medicinal herb that has been used to enhance the flavors of food while it's antioxidant properties also help preserve foods. Significant levels of a dozen or more antioxidants have been discovered in Rosemary. It's antioxidants protect the entire body including the brain. The antioxidants also help protect capillaries and arteries as well as the heart. Rosemary is a stimulant to the circulatory system

Actions: Carminative, antispasmodic, antidepressant, rubefacient, antimicrobial, emmenagogue

Constituents: volatile oil, flavonoids, rosmarinic acid & other phenolic acids, diterpenes, triterpenes

Wild Oat Seed (*Avena sativa*)

Soothing, nourishing tonic for the nervous system. Used a nutritive for the nervous system, oats are soothing, supportive and are also considered a cardiac tonic. With the prominence of cardiovascular disease in our culture I have chosen to include several cardiovascular tonics which may work in different ways and on different aspects of this system. Some herbalists indicate that Wild Green Oat seeds can support sexual performance.

Actions: nervine tonic, anti-depressant, nutritive

Constituents: Proteins, flavones, avenacosides, vitamin E

Nettle Leaf (*Urtica dioica*) - Support for urinary tract, immune system, blood, rich in minerals, vitamins, chlorophyll, and trace minerals. Nettles is great as a general nutritive tonic. If prostate problems develop I suggest adding the root and seed to this formula as well as the leaf. This is an excellent endocrine tonic, providing invaluable support for the kidneys, reproductive system and liver. Rosemary Gladstar writes that it activates metabolism through it's strengthening and toning effects on the entire system. The nutrients in Nettles support the muscular-skeletal system which is another reason for it's importance as a tonic for men.

Actions: nutritive, tonic, diuretic, astringent, hypotensive

Constituents: Chlorophyll, indoles, acetylcholine, vitamin C, minerals

Turmeric Root (*Curcuma longa*)

Turmeric is in the same botanical family as Ginger. A powerful liver protector and antioxidant, Turmeric's antioxidant activity surpasses that of Vitamin E, SOD and Beta-carotene. Turmeric enhances the activity of glutathione S-transferase one of the most important detoxifying enzymes of the body. Research demonstrates Turmeric acts as an anti-inflammatory and studies have compared it's action to cortisone and phenylbutazone. Supports the cardiovascular system, including the lowering of cholesterol and inhibition of platelet aggregation. A carminative for the digestive system which also provides probiotic enhancement. Research indicates cardioprotective and anti-tumor activity. Turmeric and it's key constituent curcumin have demonstrated antimutagenic and anti-cancer activities in several studies. As a hepatic protector, Turmeric has exhibited potent activity against several types of chemically induced liver damage. It also increases bile output, increases the excretion of bile salts and cholesterol.

Actions: Carminative, alterative, hepatic, vulnerary, antibacterial, antioxidant, anti-inflammatory, anti-tumor, digestive stimulant, anti-mutagenic

Constituents: curcumin, volatile oils, resins, vitamins, minerals

Licorice Root (*Glycyrrhiza glabra*)

In traditional Chinese medicine Licorice root is called the great "harmonizer" or "peacemaker" because it is believed that it harmonizes the actions of all other herbs. It holds a prominent place in Chinese herbology being the most often used herb in this system of treatment. Licorice is also among the most widely studied of all herbal medicines.

A superior tonic for the endocrine system especially the adrenals, reproductive system and the liver. Adrenal

exhaustion is becoming more common as we age, and with the often stressful lifestyles of men, licorice, in moderation, is a wonderful tonic. *Glycyrrhiza* has a marked effect on endocrine function. It increases the production of cortisol, DHEA, and aldosterone supporting the adrenal cortex. Contains Triterpenes which are metabolized in the body into molecules similar in structure to adrenal cortex hormones, components that are able to bind to the glucocorticoid receptors on cells and exert glucocorticoid-like effects. This is one way that it works with the adrenal cortex to enhance its function. Licorice has also been found to inhibit the breakdown of adrenal hormones by the liver. The cortisol like compounds contribute to Licorice's anti-inflammatory properties. The anti-inflammatory properties and support of adrenal function contribute to Licorice's effectiveness in dealing with allergic reactions. Recognized for its anti-viral properties, research on Licorice demonstrates that it has an inhibiting effect on a number of processes involved in viral replication. Licorice initiates the production of interferon and macrophages. It has been indicated as inhibiting the Epstein-Barr virus.

Anti-hepatotoxic properties are another important reason for inclusion in this formula. Licorice has been shown to inhibit chemical induced liver damage and prevent free radical damage while inhibiting the formation of free radicals.

Beneficial to gastric ulcers should they be present, this aspect of Licorice has been reported in both the Journal Of the American Medical Association and Lancet. Licorice has been found more effective in treating ulcers than some of the most widely prescribed drugs. In Traditional Chinese Medicine licorice is considered useful for: replenishing "Chi", clearing heat, moistening the lungs and for strengthening digestion. The addition of Licorice enhances and balances the herbal aspect of this formula.

Actions: anti-inflammatory, anti-hepatotoxic, anti-spasmodic, expectorant, demulcent, adrenal tonic, anti-viral, nutritive

Constituents: flavonoids, isoflavonoids, coumarins, polysaccharides, glucan, volatile oil, chalcones, phytosterols, lignans, amino acids, coumarins, glycyrrhetic acid and its major active component is glycyrrhizin

NOTE: There is some misinterpreted information concerning Licorice and hypertension and edema. In the medical literature, there are about 25 documented cases of Licorice creating high blood pressure and or edema. In those documented cases the people who developed these problems were consuming excessively large quantities of Licorice, 2-4 ounces daily for years. Licorice is safe and beneficial when used in moderate amounts.

Dandelion Root & Leaf (*Taraxacum officinale*)

This Native tonic for the liver and urinary tract, is rich in nutrients including carotenoids such as lutein and violaxanthin. One of the richest botanical sources of potassium, dandelion is one of the most ideally balanced diuretics. Used in the Ayurvedic healing tradition for the lymph system, liver, gall bladder and breast health. It supports the liver and gall bladder and is an excellent liver tonic.

Actions: diuretic, hepatic, cholagogue, tonic, bitter, nutritive, laxative (in large quantities)

Constituents: Sesquiterpenes lactones, triterpenes, polysaccharides, carotenoids, potassium

Advanced Phyto-Nutrient & Antioxidant Factors:

Kale Concentrate

Called the grandmother of the cabbage family, Kale is a highly nutritious green vegetable. Kale is rich in the protective phyto-nutrients: lutein, zeaxanthin, indole and chlorophyll. Also rich in minerals including calcium, iron and vitamins C and A. Considered a strengthening food for the stomach, liver, lungs and immune system.

Tomato Concentrate

Research indicates that the red carotene in tomatoes, lycopene, is a powerful antioxidant and free radical scavenger of singlet oxygen. Cancer research indicates that men whose diets are rich in tomatoes and their phyto-nutrient lycopene, have lower prostate cancer risks. Tomatoes and lycopene function in protecting cardiovascular health and may effect proper blood clotting.

Tomato concentrate provides vitamin C, niacin, phosphorous, and carotenes, especially the highly active antioxidant carotenoid lycopene. Tomatoes contribute to cholesterol management, cardiovascular and prostate health.

Blueberry Fruit Concentrate

This native fruit contains health supportive phyto-nutrients notably proanthocyanins, which have shown to regenerate reduced glutathione from oxidized glutathione. Blueberries possess antioxidant properties that neutralize free radicals and strengthen the vascular system. Proanthocyanins stabilize collagen and preserve elastin that is vital to connective tissue, the skin, blood vessels and muscles. This food concentrate supplies other food factors, color pigments, etc., which contribute to the comprehensive nature of this formula. Current research has disclosed innu-

merable health benefits ranging from cancer prevention, cardiovascular support, protecting the oxidation of LDL's, anti-aging, vision support and improvements in cognitive and motor function.

Reishi Mushroom Mycelia Extract, *Ganoderma lucidum* (Ling-Zhi)

Recorded use of Reishi mushroom dates back 4,000 years in China and Japan. Reishi is one of the most highly regarded of all herbs in Oriental Medicine. Considered the longevity or immortality elixir Reishi has been called a divine herb or spirit plant. Reishi is considered a “‘fu zheng’ tonic: *a medicine that improves the ability of the body to maintain homeostasis by strengthening natural resistance and by improving general health*” [6]. Reishi is considered a superior tonic for the cardiovascular system and the liver. Reishi has demonstrated anti-oxidant, antitumor, antihepatotoxic (liver protecting), and cholesterol regulating properties in numerous studies. In China Reishi is commonly used to treat liver dysfunction.

The mycelia of Reishi contains active anti-tumor polysaccharides and about 100 different triterpenes. The triterpenes such as ganoderic acids, have shown to assist in lowering blood pressure and cholesterol, improving liver function and inhibiting histamine release. The polysaccharides include Beta-D-glucan, and Ganoderans A, B, C. Research demonstrates that they stimulate and modulate the immune system to increase activity and heighten response to foreign cells, whether bacteria, viruses or tumor cells. Research reveals that Reishi can increase production of Interleukin 1 and 2, and enhances natural killer cell activity. Several of Reishi's polysaccharides have antitumor and cardio-protective properties. Reishi provides adaptogenic support to adrenal function.

Reishi supports the central nervous system, helps with insomnia, and inhibits allergic reactions. Used in cancer prevention and to enhance well being of HIV patients. Traditionally thought to increase mental and intellectual capacity and to have aphrodisiac properties.

Shiitake (*Lentinula edodes*)

Studies on Shiitake mushrooms have discovered effective cholesterol lowering properties. *Eritadenine* is indicated as the constituent in these delicious mushrooms, capable of lowering serum cholesterol, phospholipids and triglycerides. Shiitake also contains the polysaccharide, *lentinan*, a Beta 1,3 Glucan, that activates helper T-cells and B-cells and reduces the synthesis of prostaglandins responsible for suppressing immune response. It demonstrates anti-tumor, and anti-viral activity. *Lentinan* also shows promise at reversing the depressed enzyme activity associated with cancer and may inhibit metastasis. Another important discovery is the constituent KS-2, a peptide that induces interferon production. Pro-vitamin D, important to Calcium utilization, is present in some mushrooms, especially Shiitake. Recent research on Shiitake found that there are receptor sites, in the Peyer's patches of the intestines, for the polysaccharides. This may be a key to the mushrooms mode of action.

Phyto-Nutrient Rich Superior Foods

Alfalfa (*Medicago sativa*)

This green food is rich in nutrients and phyto-nutrients including chlorophyll, calcium, magnesium and trace minerals including boron, as well as vitamins K, C, A, E, folic acid and other B vitamins, flavonoids, phytoestrogens and chlorophyll. Constituents include isoflavones, indicates that it stimulates estrogen production. Nourishes the blood, liver and the body in general. Also indicated as useful in cholesterol management and reduction.

Hydrilla verticillata

Hydrilla Verticillata is a rooted macrophyte, meaning that it's roots draw nutrients from the soil or base of fresh-water lakes, rivers and streams. Unlike algae's (known as surface macrophytes) which float on top of fresh water and absorb nutrients from the surface, hydrilla lives below, protected from air-borne contaminants. Submerged macrophytes like Hydrilla accumulate more nutrients from the soil and water than surface macrophytes mineral content. Hydrilla provides an abundant source of: calcium, magnesium, potassium, phosphorus, manganese, iron, chlorophyll, B-complex, beta carotene, 17 amino acids, 8 fatty acids, polysaccharides, and all essential trace minerals. This green super food has potent antioxidant and free radical scavenging properties. Energy enhancing, it also enhances nutrient absorption.

Indicated as radio protective (Inhibits damage caused by radiation).

Supports muscle building and has anti-aging factors such as RNA/DNA, polysaccharides, SOD, and co-enzymes. Hydrilla is ecologically sound as it grows abundantly in fresh waters.

Laminaria Sea Vegetable Blend

Nutrient rich source of: calcium, magnesium, iodine, potassium, iron, phosphorus, manganese, zinc, selenium, chromium and trace minerals. Important detoxifying and antioxidant properties. Enhances Vitamin E activity. Japanese research shows cardiogenic and hypotensive effects. Supports endocrine, cardiovascular and urinary sys-

tems. Sea vegetables have adaptogenic properties.

Barley Grass & Juice Concentrate (*Hordium vulgare*)

Highly nutritious green food naturally rich in chlorophyll, beta-carotene, magnesium, iron, SOD, B-complex, calcium, sulfur, trace minerals and amino acids. A supportive, balancing food with some antioxidant properties.

Pumpkin Seeds

Considered a traditional treatment for BPH in many countries, Pumpkin seeds contain fatty acids and zinc. They are also high in important amino acids including alanine, glycine and glutamic acid. According to Dr. James Duke, pumpkin seeds contain curcubitacins which may prevent some transformation of testosterone in the more reactive dihydrotestosterone, a benefit to prostate health.

Nutrient Potentiators:

Ginger Root (*Zingiber officinale*) Ginger is an excellent digestive tonic, antioxidant, carminative, circulatory tonic, cardiogenic, and has shown benefits in arthritis and several types of inflammation. It is also considered a potentiator that enhances the action of other herbs when combined in a formula. Rich in digestive enzymes and phytonutrients, research indicates Ginger is a digestive aid with proteolytic enzyme activity that increases bile production. A powerful antioxidant with adaptogenic properties. Aids peripheral circulation and is balancing to the prostaglandins important in menopause, PMS, arthritis, cardiovascular disease, and inflammation. Thought to be an aphrodisiac.

Cumin Seed (*Cuminum cyminum*)

A carminative herb used in Ayurvedic traditions to promote the assimilation of other herbs.

Black Pepper (*Piper nigrum*)

Considered a powerful digestive stimulant, enhancing digestion and food assimilation for 3,000 years. Current research has uncovered its ability to enhance absorption and potentiation of nutrients, medicines and herbs. One of the three spices in the revered Ayurvedic compound, *Trikatu*.

FOODSTATE® NUTRIENTS

Vitamins

10,000 IU Vitamin A with 50% as Beta-Carotene

Beta-carotene (Provitamin A) and fat soluble vitamin A (Retinol) are important to the physiology. Vitamin A, is termed retinol because it is of primary importance to the retina of the eye. Vitamin A is important to growth and development of the entire body, with special importance for vision, functions of the immune system, and reproductive health. Carotenoids are recognized for their protective antioxidant, free radical scavenging and anti-aging properties. Both forms are supplied because some people (those with diabetes, liver dysfunction, etc.) do not efficiently convert Beta-carotene to vitamin A.

Food & Herbal Sources: Gotu kola, alfalfa, red raspberry leaves, nettle leaves, dandelion root

B Complex

Supports metabolic functions related to energy production, fat, carbohydrate and protein metabolism. Necessary to the functioning of the nervous system, muscles in the GI tract, health of the hair, skin, eyes, mouth and liver. Lower levels often found in the elderly. Yeast is richest natural source.

B-1 – Thiamine is important to function of the Krebs cycle, which enables the body to manufacture energy from glucose. Shown to effect emotional well being.

B-2 - Riboflavin functions within the enzyme systems involved in the metabolism of carbohydrates, fats and proteins. Important to cell respiration and to regenerating glutathione. Important nutrient for those who consume alcoholic beverages.

B-3 – Niacinamide is involved in all the functions of the B complex. Found to benefit insulin secretion and cholesterol management.

B-5 - Pantothenic Acid is utilized in energy production, in the manufacture of adrenal hormones and red blood cells.

B-6 – Pyridoxine is important to formation of the body's proteins and structural compounds, chemical transmitters

in the nervous system, prostaglandins and red blood cells. Assists in modulating hormonal balance and immune function.

B-12- Important to the prevention of pernicious anemia. 100 mcg is recommended for vegetarian supplementation. Aging may increase the need for supplementation. Works with folic acid in production of DNA, red blood cells, and the myelin sheath that surrounds the nerves.

Folic Acid – Works with B-12 in many vital functions. Critical to DNA synthesis and cellular division. 400 mcg is recommended dose

Biotin – Functions in fat and amino acid production and utilization. Has a beneficial effect on the scalp, hair and nails.

Choline

Essential to the manufacture of the vital neurotransmitter acetylcholine, phosphatidylcholine and other components of cell membranes. Important to fat metabolism.

Inositol

Functions closely with choline in production of cell membranes.

Vitamin C

Primary role is that of collagen production. Also critical to the functioning of the immune and nervous systems, and adrenal function. Provides antioxidant protection. Promotes wound healing, and red blood cell formation. Plays a role in both protein and calcium metabolism. As we age the sex glands develop a greater need for C and will draw it from other tissues, leaving these tissues vulnerable. The entire vitamin C complex works together with ascorbic acid acts as a free radical scavenger which protects the rest of the complex.

Bioflavonoid Complex

“Nature’s biological response modifiers”, bioflavonoids have the ability to modify the body’s reaction to allergens, viruses and carcinogens. Important for strengthening capillaries and veins. Functions as powerful antioxidants. Research has shown them to be anti-inflammatory, liver protective, anti-tumor, antimicrobial, antioxidant, antiviral, supportive to the immune system, and strengthening to the entire cardiovascular system. They also have an estrogenic effect. Bioflavonoids may help reduce the heavy bleeding which often accompanies menopause. Regular use of bioflavonoids and bioflavonoid rich herbs helps with many of the symptoms of menopause: vaginal lubrication, minimizes hot flashes, strengthening to the bladder, and provides cardiovascular support.

Vitamin D3

Adequate levels needed as vitamin D is important to the regulation of calcium absorption. D3 is the active hormonal form of vitamin D which is the form in FoodState vitamin D. Recent research Vitamin D may play a role in diabetes prevention.

Vitamin E

Primary function is that of a cellular antioxidant. Important to immune function and cardiovascular health.

Vitamin K

Vitamin K is necessary for the manufacture of blood clotting factors such as prothrombin and clotting factors VII, IX, and X. Research demonstrates that Vitamin K1 plays a vital role in bone building. There are three types of Vitamin K: K1 (phylloquinone) the natural form from plants, (which is used in this formula); K2 (menaquinone) created by intestinal bacteria; and K3 (menadione) a synthetic form (7). The 3 forms of Vitamin K have similar functions in relationship to blood clotting factors. In bone building and calcium utilization Vitamin K 1 is substantially superior and *BioSan* uses only FoodState Vitamin K1 in all formulas. Vitamin K1 helps convert the non-collagen protein, osteocalcin, into its active form. When active it facilitates osteocalcin securing the calcium into place within the bone matrix. K also has antioxidant properties.

Food & Herbal Sources: fat soluble chlorophyll, green leafy vegetables, alfalfa, nettles, broccoli, green tea, asparagus, oats, brown rice, whole wheat, green peas, cabbage

Calcium

Vital to the structure of bones and teeth, contraction of muscles, enzyme activity, regulation of the heart beat, release of neurotransmitters and clotting of the blood.

Magnesium

Primary function is that of enzyme activation, with participation in more than 300 enzymatic reactions in the body.

Plays a critical role in energy production, bone structure, and muscle structure and function. Important factor in the sodium and potassium pump, and in the metabolism of calcium.

Food & Herbal Sources: Licorice root, kelp, nettle leaves, dulse, pumpkin seeds

Boron

Important to maintaining bone and joint function. Found to reduce excretion of calcium and magnesium. Important to the production of the active form of vitamin D3 and to the activity of male hormones.

Zinc

The prostate contains higher levels of zinc than any other organ. Supplemental Zinc is a key part of most nutritional programs designed to support the health of the prostate. Many studies attest to the benefits of Zinc supplementation in both prevention and treatment of BPH, for reducing enlargement and relieving symptoms. The efficacy of zinc is due in part, to zinc's involvement with androgen metabolism. Zinc has been shown to inhibit the activity of the enzyme that converts testosterone to DHT, and to inhibit prolactin secretions.

Zinc functions in many of the enzyme systems of the body. Important to the immune function, wound healing, sexual function, sensory function, SOD production and the health of the skin. Zinc provides nutritional support to the T cells, white blood cells and thymic hormones, thymulin in particular. Deficiency appears to reduce production of T & B lymphocyte cells. Zinc has anti-viral properties. The most critical trace mineral for male reproduction, Zinc affects testosterone levels, sperm count, sperm motility and prostate function. An important non-enzyme function of Zinc is the enabling of the transcription factor to bind with DNA and stimulate transcription of a gene. The form of all minerals is crucial to their utilization, so FoodState Zinc is used for optimal efficacy.

Functions in many enzyme systems and body functions. Important to immune function, wound healing, sexual function, sensory function and skin health.

GTF Chromium

Important to blood sugar control mechanisms. Works with insulin in facilitating the uptake of glucose into cells and is important to insulin functioning properly. Helps with regulation of cholesterol and triglyceride levels.

Manganese

Important to functioning of many enzyme systems including: blood sugar control, thyroid hormones, SOD and energy metabolism.

Food & Herbal Sources: red raspberry leaves, bilberry, ginger root, Gotu kola, chickweed herb, hibiscus flowers,

Selenium

Primary function is as a component of the vital antioxidant enzyme glutathione peroxidase, working with Vitamin E to prevent free radical damage to cells. Food Sources: brewers yeast, food grown in selenium rich soil, brazil nuts, wheat germ, whole grains, hibiscus flowers, Fo-Ti, catnip herb, milk thistle seed

Molybdenum

Functions as a component of several detoxification enzymes, including those involved in alcohol detoxification, uric acid formation and sulfur metabolism.

Potassium

An essential electrolyte that functions in the maintenance of water balance, heart, muscles, kidney, adrenal and nerve function.

Copper

Functions in several key enzymatic reactions in the body, including SOD. Important to iron utilization, proper anti-inflammatory response, cardiovascular health.

Phosphorus

Functions with calcium in bone building and is important to energy production.

Vanadium

Functions in hormone, cholesterol and blood sugar metabolism. Studies indicate better glucose tolerance, and improved mineralization of bones.

Iodine

Primary function is in the production of thyroid hormones. Also important to health and metabolism of breast tissue.

PLANT ENZYMES: Amylase & Protease Bromelain, Papain Complex..... 25 mg

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