

PACKAGE INSERT

SCHEDULING STATUS
To be assigned

PROPRIETARY NAME AND DOSAGE FORM

REPLENI-MAG Tablets and Capsules

COMPOSITION

REPLENI-MAG is comprised of 2 Components:

Component 1:

Each Orange Magnesium Complex Tablet contains:	
Essential Salts:	
Magnesium (derived from Magnesium Oxide)	150 mg
Calcium (derived from Calcium Carbonate)	75 mg
Potassium (derived from Potassium Phosphate)	40 mg
Sodium (derived from Sodium Chloride)	40 mg
Amino Acids and Derivatives:	
L-Arginine (derived from L-Arginine Hydrochloride)	10 mg
L-Aspartic Acid (as L-Aspartic Acid)	20 mg
L-Carnitine (derived from L-Carnitine Tartrate)	20 mg
L-Glutamine (as L-Glutamine)	10 mg
L-Leucine (as L-Leucine)	10 mg
L-Lysine (as L-Lysine)	10 mg
L-Ornithine (as L-Ornithine)	10 mg
Taurine (as Taurine)	20 mg
Anti-Oxidants:	
Co-Enzyme Q10 (as Co-Enzyme Q10)	5 mg
Copper (derived from Copper Sulphate)	1 mg
Selenium (derived from Selenium Amino Acid Chelate)	15 µg
Zinc (derived from Zinc Oxide)	5 mg
Other Essential Nutrients:	
Vitamin D3 (as Cholecalciferol)	200 IU
Malic Acid (as Malic Acid)	20 mg
Manganese (derived from Manganese Sulphate)	3 mg
Excipients: Flexicoat® orange, magnesium stearate (vegetable), maize starch, microcrystalline cellulose, povidone, shellac, silicon dioxide	

Component 2:

Each White Multi-Vitamin Capsule contains:	
Vitamin A (derived from Vitamin A Acetate)	500 IU
Vitamin B1 (derived from Thiamine Hydrochloride)	5 mg
Vitamin B2 (as Riboflavin)	5 mg
Vitamin B3 (as Nicotinamide)	10 mg
Vitamin B5 (derived from Calcium-D-Pantothenate)	10 mg
Vitamin B6 (derived from Pyridoxine Hydrochloride)	10 mg
Vitamin B12 (derived from Cyanocobalamin)	10 µg
Vitamin C (as Ascorbic Acid)	150 mg
Vitamin E (as dl-α-Tocopherol)	10 IU
Biotin (as Biotin)	25 µg
Folic Acid (as Folic Acid)	500 µg
Iron (derived from Iron Amino Acid Chelate)	15 mg
Inositol (as Myo-Inositol)	25 mg
Excipients: hard-gel vegetable capsule, magnesium stearate (vegetable), maize starch, silicon dioxide	

PHARMACOLOGICAL CLASSIFICATION

D:34.12 Multiple substance formulation

PHARMACOLOGICAL ACTION

Pharmacodynamics:

L-Arginine: L-Arginine plays a role in the formation of important physiologic factors, including nitric oxide (NO, a vasodilator), urea (an excretory product), creatine (required for storage of high-energy phosphates), all proteins (as part of the structures), and growth hormone release.

L-Aspartic acid: Aspartic Acid is a non-essential amino acid in humans. It has an overall negative charge and plays an important role in the synthesis of other amino acids and in the citric acid and urea cycles. Asparagine, arginine, lysine, methionine, isoleucine, and some nucleotides are synthesized from aspartic acid. Aspartic acid also serves as a neurotransmitter.

Biotin: Biotin functions as an integral part of the enzymes that transport carboxyl units and fix carbon dioxide. Biotin enzymes are important in carbohydrate and lipid metabolism, and are involved in gluconeogenesis, fatty acid synthesis, propionate metabolism and the catabolism of amino acids.

Calcium: Calcium plays a structural role in bones and teeth and is essential for cellular structure, blood clotting, muscle contraction, nerve transmission, enzyme activation and hormone function.

L-Carnitine: Carnitine regulates long-chain fatty acid transport across cell membranes; facilitates beta-oxidation of long-chain fatty acids and keto acids; and transportation of acyl CoA compounds.

Co-Enzyme Q10: Co-enzyme Q10 is involved in electron transport and supports synthesis of adenosine triphosphate (ATP) in the mitochondrial membrane and thus plays a vital role in intracellular energy production. It is a fat-soluble anti-oxidant that helps to stabilise cell membranes, preserving cellular integrity and function. It also helps to regenerate Vitamin E to its anti-oxidant form. It has immune-stimulant activity.

Copper: Copper functions as an essential component of several enzymes (e.g. superoxide dismutase) and other proteins. It plays a role in bone formation and mineralisation, and in the integrity of the connective tissue of the cardiovascular system. Copper has pro-oxidant effects in vitro but antioxidant effects in vivo; there is accumulating evidence that adequate copper is required to maintain antioxidant effects within the body.

Folic Acid: Folates are involved in a number of single carbon transfer reactions, especially in the synthesis of purines and pyrimidines (and hence the synthesis of deoxyribonucleic acid (DNA)), glycine and methionine. They are also involved in some amino acid conversions and the formation and utilisation of formate. Deficiency leads to impaired cell division (effects most noticeable in rapidly regenerating tissues).

L-Glutamine: Like other amino acids, glutamine is biochemically important as a constituent of proteins. Glutamine is also crucial in nitrogen metabolism. Ammonia formed by nitrogen fixation is assimilated into organic compounds by converting glutamic acid to glutamine. The enzyme which accomplishes this is called glutamine synthetase. Glutamine can then be used as a nitrogen donor in the biosynthesis of many compounds, including other amino acids, purines, and pyrimidines.

Inositol: Plays an important role as the structural basis for a number of secondary messengers in eukaryotic cells, including inositol phosphates, phosphatidylinositol (PI) and phosphatidylinositol phosphate (PIP) lipids.

Iron: Iron is a component of haemoglobin, myoglobin and many enzymes that are involved in a variety of metabolic functions, including transport and storage of oxygen, the electron transport chain, deoxyribonucleic acid (DNA) synthesis and catecholamine metabolism.

L-Leucine: Leucine is a branched chain amino acid which is an essential amino acid. The primary function of branched chain amino acids is as precursors for the synthesis of proteins. In addition, they may be broken down if necessary to serve as an energy source.

L-Lysine: L-lysine, is an essential amino acid, and is important for proper growth. It plays an essential role in the production of carnitine, a nutrient responsible for converting fatty acids into energy and helping lower cholesterol. Lysine appears to help the body absorb calcium, and it plays an important role in the formation of collagen.

Magnesium: Magnesium is an essential cofactor for enzymes requiring adenosine triphosphate (ATP) (these are involved in glycolysis, fatty acid oxidation and amino acid metabolism). It is also required for the synthesis of ribonucleic acid (RNA) and replication of deoxyribonucleic acid (DNA); neuromuscular transmission; and calcium metabolism.

Malic acid: Malic acid is a naturally occurring compound that plays a role in the complex process of deriving adenosine triphosphate (ATP) from food.

Manganese: Manganese activates several enzymes, including hydroxylases, kinases, decarboxylases and transferases. It is also a constituent of several metalloenzymes, such as arginase, pyruvate carboxylase, and also superoxide dismutase, which protects cells from free radical attack. It may have a role in the regulation of glucose homeostasis and in calcium mobilisation.

L-Ornithine: A non-essential and non-protein amino acid, ornithine is critical for the production of the body's proteins, enzymes and tissue. Ornithine plays a central role in the urea cycle and is important for the disposal of excess nitrogen (ammonia). Ornithine is the starting point for the synthesis of many polyamines such as putrescine and spermine.

Potassium: Potassium is the principal intracellular cation, and is fundamental to the regulation of acid-base and water balance. It contributes to transmission of nerve impulses, control of skeletal muscle contractility and maintenance of blood pressure.

Selenium: Selenium functions as an integral part of the enzyme glutathione peroxidase and other selenoproteins. Glutathione peroxidase prevents the generation of oxygen free radicals that cause the destruction of polyunsaturated fatty acids in cell membranes. Selenium spares the requirement for vitamin E and vice versa.

Sodium: Sodium is one of the principle ions in extracellular fluid. It plays a role in the maintenance of membrane potential and is a primary determinant of blood volume and blood pressure.

Taurine: Taurine is an organic osmolyte involved in cell volume regulation, and provides a substrate for the formation of bile salts. It plays a role in the modulation of intracellular free calcium concentration. Taurine serves a wide variety of functions in the central nervous system, from development to cytoprotection.

Vitamin A: Vitamin A (in the form of retinal) is essential for normal function of the retina, particularly for visual adaptation to darkness. Other forms (retinol, retinoic acid) are necessary to maintain the structural and functional integrity of epithelial tissue and immune system, cellular differentiation and proliferation and bone growth. Vitamin A may act as a cofactor in biochemical reactions.

Vitamin B1: Thiamine functions as a coenzyme in the oxidative decarboxylation of alpha ketoacids (involved in energy production) and in the transketolase reaction of the pentose phosphate pathway (involved in carbohydrate metabolism). Thiamine is also important in nerve transmission (independently of coenzyme function).

Vitamin B2: Riboflavin functions as a component of two flavin coenzymes – flavin mononucleotide (FMN) and flavin adenine dinucleotide (FAD). It participates in oxidation-reduction reactions in numerous metabolic pathways and in energy production. Examples include the oxidation of glucose, certain amino acids and fatty acids; reactions with several intermediaries of the Krebs cycle; conversion of pyridoxine to its active coenzyme; and conversion of tryptophan to niacin. Riboflavin has a role as an antioxidant. It may be involved in maintaining the integrity of erythrocytes.

Vitamin B3: As a vitamin, niacin functions as a component of two coenzymes, nicotinamide adenine dinucleotide (NAD) and nicotinamide adenine dinucleotide diphosphate (NADP). These coenzymes participate in many metabolic processes including glycolysis, tissue respiration, lipid, amino acid and purine metabolism.

Vitamin B5: Pantothenic acid functions mainly as a component of coenzyme A and acyl carrier protein. Coenzyme A has a central role as a cofactor for enzymes involved in the metabolism of lipids, carbohydrates and proteins; it is also required for the synthesis of cholesterol, steroid hormones, acetylcholine and porphyrins. As a component of acyl carrier protein, pantothenic acid is involved in various transfer reactions and in the assembly of acetate units into longer-chain fatty acids.

Vitamin B6: Vitamin B6 is converted in erythrocytes to pyridoxal phosphate and, to a lesser extent, pyridoxamine phosphate. It acts as a cofactor for enzymes that are involved in more than 100 reactions affecting protein, lipid and carbohydrate metabolism. Pyridoxal phosphate is also present in the synthesis of several neurotransmitters; the metabolism of several vitamins (e.g. the conversion of tryptophan to niacin); and haemoglobin and sphingosine formation.

Vitamin B12: Vitamin B12 is active in the recycling of folate coenzymes and the degradation of valine. It is also required for nerve myelination, cell replication, haematopoiesis and nucleoprotein synthesis.

Vitamin C: The functions of vitamin C are based mainly on its properties as a reducing agent. It is required for the formation of collagen and other organic constituents of the intercellular matrix in bone, teeth and capillaries; and the optimal activity of several enzymes. Vitamin C also acts as an antioxidant (reacting directly with aqueous free radicals), which is important in the protection of cellular function and to enhance the intestinal absorption of non-haem iron.

Vitamin D: Vitamin D is essential for promoting the absorption and utilisation of calcium and phosphorus and normal calcification of the skeleton. Along with parathyroid hormone (PTH) and calcitonin, it regulates serum calcium concentration by altering serum calcium and phosphate blood levels as needed, and mobilising calcium from bone. It maintains neuromuscular function and various other cellular processes, including the immune system and insulin production.

Vitamin E: Vitamin E is an antioxidant, protecting polyunsaturated fatty acids in membranes and other critical cellular structures from free radicals and products of oxidation. It works in conjunction with dietary selenium (a cofactor for glutathione peroxidase), and also with vitamin C and other enzymes, including superoxide dismutase and catalase.

Zinc: Zinc is an essential component of over 200 enzymes. It plays an important role in the metabolism of proteins, carbohydrates, lipids and nucleic acids. It is a cofactor in a range of biochemical processes, including the synthesis of DNA, RNA and protein.

INDICATIONS

REPLENI-MAG is indicated to help prevent and ease muscle cramps and spasms.

CONTRAINDICATIONS

Hypersensitivity to any of the ingredients, including excipients.

Not for use in children and adolescents below the age of 18 years.

REPLENI-MAG should not be used by persons suffering from:

- conditions associated with hypercalcaemia and hypercalcuria, and in renal impairment (chronic);
- renal osteodystrophy with hyperphosphataemia (risk of metastatic calcification);
- Wilson's disease (the disorder may be exacerbated);
- hepatic and biliary disease.

WARNINGS AND SPECIAL PRECAUTIONS

Take 2 hours before or after taking other medications.

Consult your healthcare professional if you are following a low protein diet.

INTERACTIONS

Bisphosphonates: calcium may reduce absorption of etidronate.

4-Quinolones: calcium and magnesium may reduce absorption of 4-quinolones.

Tamoxifen: calcium supplements may increase the risk of hypercalcaemia (a rare side-effect of tamoxifen therapy).

Tetracyclines: calcium and magnesium may reduce absorption of tetracyclines.

Iron: calcium carbonate or calcium phosphate may reduce absorption of iron.

Zinc: calcium may reduce absorption of zinc.

Calcitonin: effect of calcitonin may be antagonised by vitamin D.

Digoxin: caution because hypercalcaemia caused by vitamin D may potentiate effects of digoxin, resulting in cardiac arrhythmias.

Thiazide diuretics: vitamin D may increase risk of hypercalcaemia.

Vitamin D analogues (alfacalcidol, calcitriol, dihydrotachysterol): increased risk of toxicity with vitamin D supplements.

PREGNANCY AND LACTATION

Safety during pregnancy and lactation has not been established.

The use of REPLENI-MAG during pregnancy and lactation is not recommended.

DOSAGE AND DIRECTIONS FOR USE

For oral use.

Morning: Take one White Multi-Vitamin Capsule with Breakfast.

Evening: Take one Orange Magnesium Complex Tablet with Dinner.

Take 2 hours before or after taking other medications.

SIDE EFFECTS

May cause mild gastrointestinal disturbances e.g. nausea, diarrhoea, constipation, indigestion, bloating and flatulence.

Zinc supplementation may cause a copper deficiency.

KNOWN SYMPTOMS OF OVERDOSE AND PARTICULARS OF ITS TREATMENT

Vitamin D could (in exceptional circumstances) cause toxicity; the margin of safety is very narrow. There is a wide variation in tolerance to vitamin D.

Excessive intake leads to hypercalcaemia and its associated effects. These include apathy, anorexia, constipation, diarrhoea, dry mouth, fatigue, headache, nausea and vomiting, thirst and weakness. Later symptoms are often associated with calcification of soft tissues and include bone pain, cardiac arrhythmias, hypertension, renal damage (increased urinary frequency, decreased urinary concentrating ability; nocturia, proteinuria), psychosis (rare) and weight loss.

If an overdose is suspected, the medicine should be stopped immediately.

IDENTIFICATION

Component 1: Orange Oval Film-coated Tablet.

Component 2: White Capsule filled with a beige coloured powder.

PRESENTATION

A cardboard carton containing blister strips of 30 Orange Magnesium Complex Tablets and 30 White Multi-Vitamin Caps

VOUBLIJET

SKEDULERINGSTATUS
Moet toege wys word

EIENDOMSNAAM EN DOSERINGSVORM
REPLENI-MAG Tablette en Kapsules

SAMESTELLING
REPLENI-MAG bestaan uit 2 Komponente:

Komponent 1:

Elke Oranje Magnesium-kompleks Tablet bevat:	
Essensiële Soute:	
Magnesium (verkry van Magnesiumoksied)	150 mg
Kalsium (verkry van Kalsiumkarbonaat)	75 mg
Kalum (verkry van Kaliumfosfaat Dibasies)	40 mg
Natrium (verkry van Natriumchloried)	40 mg
Aminosure en Derivate:	
L-Arginien (verkry van L-Arginienhydrochloried)	10 mg
L-Aspartiensuur (as L-Aspartiensuur)	20 mg
L-Karnitien (verkry van L-Karnitientartraat)	20 mg
L-Glutamien (as L-Glutamien)	10 mg
L-Leusien (as L-Leusien)	10 mg
L-Lisien (as L-Lisien)	10 mg
L-Ornitien (as L-Ornitien)	10 mg
Tourien (as Tourien)	20 mg
Antioksidante:	
Ko-Ensien Q10 (as Ko-Ensien Q10)	5 g
Koper (verkry van Kopersulfat)	1 mg
Seleen (verkry van Seleemaminosuurchelaat)	15 µg
Sink (verkry van Sinkoksied)	5 mg
Ander Noodsaaklike Voedingstowwe:	
Vitamien D3 (as Cholekalsiferol)	200 IE
Appelsuur (as Appelsuur)	20 mg
Mangaan (verkry van Mangaansulfat)	3 mg
Bindmiddels: Flexicoat® oranje, magnesiumstearaat (plant), mielystsel, mikrokristallyne sellulose, povidon, skellak, silikondioksi	

Komponent 2:

Elke Wit Multivitamien Kapsule bevat:	
Vitamien A (verkry van Vitamien A Asetaat)	500 IE
Vitamien B1 (as Tiamienhydrochloried)	5 mg
Vitamien B2 (as Riboflavien)	5 mg
Vitamien B3 (verkry van Nikotienamied)	10 mg
Vitamien B5 (verkry van Kalsium-D-Pantotenaat)	10 mg
Vitamien B6 (verkry van Pridoksienehydrochloried)	10 mg
Vitamien B12 (verkry van Sianokobalamien)	10 µg
Vitamien C (as Askorbienurs)	150 mg
Vitamien E (as dl-a-Tokoferol)	10 IE
Biotien (as Biotien)	25 µg
Foliensuur (as Foliensuur)	500 µg
Yster (verkry van Ysteraminosuurchelaat)	15 mg
Inositol (as Mio-Inositol)	25 mg
Bindmiddels: harde-jel plant-kapsule, magnesiumstearaat (plant), mielystsel, silikondioksi	

FARMAKOLOGIESE KLASIFIKASIE
D: 34.12 Multistof-formulerings

FARMAKOLOGIESE WERKING
Farmakodinamika:

L-Arginien: L-Arginien speel 'n rol in die vorming van belangrike fisiologie faktore, insluitend stikstofmonoksied (NO, 'n vasodilator), ureum ('n uitkeidingsproduk), kreatien (nodig vir berging van hoë-energie fosfate), alle proteiene ('n deel van die strukture), en groeihoornoorvulling.

L-Aspartiensuur: Aspartiensuur is 'n nie-essensiële aminosuur in die mens. Dit het 'n totale negatiewe lading en speel 'n belangrike rol in die sintese van ander aminosure en die sitroensuur- en ureumsukkulse. Asparagien, arginien, lisien, metionien, isolusien, en sommige nukleotide word van aspartiensuur gesintetiseer. Aspartiensuur dien ook as 'n senuoordragstof.

Biotien: Biotien funksioneer as 'n integrale deel van die ensieme wat karboksienehede vervoer en koolstofdioksied bind. Biotienensieme is belangrik in koolhidraat- en lipiedmetabolisme, en is betrokke by glukoneogenese, vetsuursintese, propionaatmetabolisme en die katabolisme van aminosure.

Kalsium: Kalsium speel 'n strukturele rol in bene en tande en is noodsaklik vir selluläre strukture, bloedstolling, spiersametreking, senuwee-oordrag, ensiaktivering en hoornfunksie.

L-Karnitien: Karnitien reguleer langketting-vetsuurvervoer of selmembrane; dit bevorder beta-oksidasie van langketting-vetsure en ketosure; asook vervoer van asiel KoA-verbindings.

Ko-Ensien Q10: Ko-Ensien Q10 is by elektronvervoer betrokke en ondersteun sintese van adenosintrifosfaat (ATP) in die mitokondriale membraan en speel dus 'n uiters belangrike rol in intrasellose energieproduksie. Dit is 'n vetoplosbare antioksidant en help om selmembrane te stabiliseer, wat selluläre integriteit en funksie bewaar. Dit help ook om Vitamien E tot sy antioksidant-effekte in die liggaam te regenerere. Dit het immuno-stimulatiewerking.

Koper: Koper funksioneer as 'n essensiële komponent van 'n aantal ensieme (bv. superoksiedismutase) en ander proteiene. Dit speel 'n rol in beenvorming en mineralisasie, en in die integriteit van die bindweefsel van die kardiovaskulêre stelsel. Koper het pro-oxidant effek in vitro maar antioksidant-effekte in vivo; daar is toenemende bewyse dat voldoende koper nodig is om antioksidant-effekte in die liggaam in stand te hou.

Foliensuur: Foliensuur is 'n aantal enkelkoolstof-oordraaksies betrokke, veral in die sintese van purine en pirimidine (en gevuld by die sintese van deoksiribonukleinsuur (DNA)), glicosien en metionien. Hulle is ook by sommige aminosuromettings en die vorming en benutting van formiaat betrokke. 'n Tekort lei tot belemmerde selverdeling (die uitwerkings is mees merkbaar by weefsel wat vinnig regenerere).

L-Glutamien: Soos ander aminosure is glutamien biochemies belangrik as 'n bestanddeel van proteine. Glutamien is ook deurslagwend by stikstofmetabolisme. Ammoniak (gevorm deur stikstofbinding) word in organiese verbindings geassimileer deur glutamienosure in glutamien om te sit. Die ensiem wat dit tweewegbring, word glutamintasietase genoem. Glutamien kan dan as 'n stikstofkenker gebruik word in die biosintese van tale verbindings, insluitend ander aminosure, purine, en pirimidine.

Inositol: Inositol speel 'n belangrike rol as die strukturele basis vir 'n aantal sekondêre boodskapperselle, insluitend inositolfosfaat, fosfatidelinositol (PIP) lipide.

Yster: Yster is 'n komponent van hemoglobien, mioglobien en talle ensieme wat by 'n verskeidenheid metaboliese funksies betrokke is, insluitend vervoer en berging van suurstof, die elektronvervoertrekking, deoksiribonukleinsuur-(DNA) sintese en katesjolamienmetabolisme.

L-Lisien: L-Lisien is 'n vertakteketting-aminosuur wat 'n essensiële aminosuur is. Die primêre funksie van vertakteketting-aminosure is as vooploers vir die sintese van proteiene. Daarby kan hulle afgebrek word indien nodig om as 'n energiebron te dien.

L-Karnitien: L-Karnitien is 'n essensiële aminosuur, en is belangrik vir behoulike groei. Dit speel 'n noodsaklike rol in die produksie van karnitien, 'n voedingsstof wat daarvoor verantwoordelik is om veters in energie om te sit en wat help om cholesterol te verlaag. Dit blyk dat karnitien die liggaam help om cholesterol op te neem, en dit speel 'n belangrike rol in die vorming van kolagene.

Magnesium: Magnesium is 'n essensiële kofaktor vir ensieme wat adenosintrifosfaat (ATP) nodig het (hulle is betrokke by glikolise, vetsuursoksidasie en aminosurometabolisme). Dit is ook nodig vir die sintese van ribonukleinsuur (RNA) en replikasie van deoksiribonukleinsuur (DNA); neuromuskuläre oordrag; en kalsiummetabolisme.

Appelsuur: Appelsuur is 'n verbinding wat natuurlik voorkom en dit speel 'n rol in die komplekses om adenosintrifosfaat (ATP) uit voedsel te verkry.

Mangaan: Mangaan aktiever 'n aantal ensieme, insluitend hidrosilases, kinases, dekarboksilases en transferases. Dit is ook 'n bestanddeel van etlike metallo-ensieme, soos arginase, piruvataarboksilase, en ook superoksiedismutase, wat selle teen vryradikalaalvaal beskerm. Dit mag 'n rol in die regulerung van glukosehomostase en in kalsiummobilitasie hê.

L-Ornitien: Ornition is 'n nie-essensiële nie-proteïen aminosuur en is van kritieke belang vir die produkse van die liggaam se proteïne, ensieme en spierweefsel. Ornition speel 'n sentrale rol in die ureumsukkul en is belangrik vir die oprulming van 'n hoormaat stikstof (ammoniaek). Ornition is die beginpunt vir die sintese van tale poliaminoe soos putresien en spermine.

Kalium: Kalium is die hoof-intraselluläre kation, en is fundamenteel tot die regulerung van suurbasis en waterbalans. Dit dra by tot die oordrag van senu-impulse, beheer van skeletspier-saamtrekbaarheid en instandhouing van bloeddruk.

Seleen: Seleen funksioneer as 'n integrale deel van die ensiem glutatienperoksidaas en ander selenoproteiene. Glutatienperoksidaas voorkom die ontwikkeling van suurstof-vryradikale wat die vernietiging van poli-onversadige veters in selmembrane veroorsaak. Seleen spaar die behoeftie aan Vitamien E en omgekeerd.

Natrium: Natrium is een die hoof-ione in buiteselluläre vloeistof. Dit speel 'n rol in die instandhouing van membraanpotensiaal en is 'n primêre determinant van bloedvolume en bloeddruk.

Tourien: Tourien is 'n organiese osmoliet wat by selvolumeregulering betrokke is, en voorsien 'n substraat vir die vorming van galsoute. Dit speel 'n rol in die modulering van intrasellose vry kalsiumkonseptrasie. Tourien verrig 'n wye verskeidenheid funksies in die sentrale senueweestelsel, van ontwikkeling tot sitosbekerming.

Vitamien A: Vitamien A (in die vorm van retinol) is noodsaklik vir normale funksie van die retina, veral vir visuele aanpassing by donker. Ander vorms (retinol, retinoëns) is nodig om die strukturele en funksionele integriteit van epiteliale weefsel en die immuunsel, selluläre differensiasie en proliferasie en beengroei in stand te hou. Vitamien A mag as 'n kofaktor in biochemiese reaksies optree.

Vitamien B3: Tiamien funksioneer as 'n koënsiem in die oksidatiële dekarboksilasie van alfa-ketosure (betrokke by energieproduksie) en in die transketolaseraksie van die pentosefosaat (betrokke door koolhidraatmetabolisme). Tiamien is ook belangrik by senueweetdraagstoel (onthaal van koënsiemfunksie).

Vitamien B2: Riboflavien het 'n rol as 'n komponent van twee flavienkoënsieme – flavienmonokleotied (FMN) en flavienadenindinukleotied (FAD). Dit neem deel aan oksidasiereduksies in tale metabolese roetes en in energieproduksie. Voorbeeld sluit in die oksidasië van glukose, sekere aminosure en veters; reaksies met etlike tussenliggers van die Krebs-siklus; omsetting van pirokolsuur tot sy aktiewe koënsiem; en omsetting van triptofaan in niasier. Riboflavien het 'n rol as 'n antioksidant. Dit mag betrokke wees by die instandhouing van die integriteit van eritrosote.

Vitamien B5: As 'n vitamien funksioneer niasier as 'n komponent van twee koënsieme, nikotienamiedadenindinukleotied (NAD) en nikotienamiedadenindinukleotieddifosfaat (NADP). Hierdie koënsieme neem aan tale metabolese prosesse deel, insluitend glikolise, weefselrespirasie, lipied-, aminosure- en purinemetabolisme.

Vitamien B6: Pantotensuur funksioneer hoofsaaklik as 'n kofaktor van koënsiem A en asieldraaproteïne. Koënsiem A het 'n sentrale rol as 'n kofaktor vir ensieme wat by die metabolisme van lipiede, koolhidraat en proteiniese betrokke is; dit is ook nodig vir die sintese van cholesterol, steroidehormone, asetielcholien en porfiriene. As 'n kofaktor van asieldraaproteïne is pantotensuur by verskeie oordraaksies en by die samestelling van aetaatkettinge in langer-ketting veters betrokke.

Vitamien B8: Vitamien B6 word in eritrosote tot pirokolsulfat omgeset. Dit tree as 'n kofaktor op vir ensieme wat by meer as 100 reaksies betrokke is wat protein, lipiede en koolhidraatmetabolisme beïnvloed. Pirokolsulfat is ook teenvoerig in die sintese van etlike senuoordragstowwe; die metabolisme van 'n aantal vitamien (bv. die omsetting van triptofaan in niasier); en hemoglobien- en sfingosienvorming.

Vitamien B12: Vitamien B12 is aktief in die herbenutting van folato-koënsieme en die afbreking van valien. Dit is nodig vir senueweetdraagstoel, selrepikasie, hematopoiese en nucleoproteïnesintese.

Vitamien C: Die funksies van vitamien C is hoofsaaklik op sy eienskappe as 'n reduseermiddel geborg. Dit is nodig vir die vorming van kolagene en ander organiese bestanddele van die interselluläre matrys in been, tande en haartjie; en die optimale werking van etlike ensieme. Vitamien C werk ook as 'n antioksidant (reageer direk met waterige vry radikale), wat belangrik is in die beskerming van selluläre funksie en om die intestinale opname van nieheemyster te bevorder.

Vitamien D: Vitamien D is noodsaklik om die opname en benutting van kalsium en fosfor en normale kalsifisering van die skelet te bevorder. Saam met paratiroidehormoon (PTH) en kalstonien reguleer kalsiumkonsentrasie deur serumkalsium- en fosfaat-bloedvlakke te wysig soos nodig, en kalsium uit been te mobiliseer. Dit hou neuromuskuläre funksie en verskeie ander selluläre prosesse in stand, insluitend die immunstelsel en insulinenproduksie.

Vitamien E: Vitamien E is 'n antioksidant wat poli-onversadige veters in membrane en ander kritiese selluläre strukture teen vry radikale en produkte van oksidasie beskerm. Dit werk tesame met diëetselein ('n kofaktor vir glutatienperoksidaas) en ook met vitamien C en ander ensieme, insluitend superoksiedismutase en katalase.

Sink: Sink is 'n essensiële komponent van meer as 200 ensieme. Dit speel 'n belangrike rol in die metabolisme van proteïne, koolhidraat, lipiede en nucleoproteïne. Dit is 'n kofaktor in 'n reeks biochemiese prosesse, insluitend die sintese van DNA, RNA en proteine.

WAAKSUWINGS EN SPESIALE VOORSORG
Neem 2 uur voor of na ander medikasies.
Raadpleeg jou gesondheidkundige as jy 'n lae-proteïen dieet volg.

INDIKASIES
REPLENI-MAG word aangedui om spierkramp en spasmas te help voorkom en te verlig.

KONTRA-INDIKASIES
Hipersensitiviteit vir enige van die bestanddele, insluitend bindmiddels.
Nie vir gebruik in kinders en jeugdiges onder 18 jaar nie.
REPLENI-MAG moet nie gebruik word deur persone wat ly aan:

- enige aandoening geassosieer met hiperkalsemie en hiperkalsiurie, asook by nien-toerekendeheid (chronies);

• nier-osteodistrofie met hiperfosfatemie (risiko van metastatiese kalsifisering).

• Wilson se siekte (die aandoening mag vererger word);

• lever- en galiese.

WAARSUWINGS EN SPESIALE VOORSORG
Neem 2 uur voor of na ander medikasies.

Raadpleeg jou gesondheidkundige as jy 'n lae-proteïen dieet volg.

INTERAKSIES

Bisfosfonate: kalsium mag die opname van etidronate verminder.

4-Kinolone: kalsium en magnesium mag die opname van 4-kinolone verminder.

Tamoksifeen: kalsiumaanvullings mag die risiko van hiperkalsemie ('n selde sake) vergroot.