

MULTI MINERAL FORMULA

ARV 918

With Vitamin K2 (MK7), Vitamin D3 & Curcumin C3 Complex 95%



There are conflicting reports in the scientific literature regarding the levels of mineral and trace elements required for healthy adults with the suggestion that all of these elements can be obtained by eating a healthy diet high in plant based foods (vegetables, salads, fruits, nuts, grains and seeds). However, in today's climate many people are eating a nutrient deficient diet of fried foods, foods high in saturated and oxidised (trans-) fats, salt, refined sugar, alcohol and caffeine. Such foods and drinks are of very poor nutrient value and can lead to deficiencies in certain minerals and trace elements and may even lead to disease states. Additionally, many agricultural areas where crops, orchards, vegetables, and pastures are grown can be deficient in minerals and trace elements through being naturally low in these elements or made deficient through poor farming practice such as the over use of super phosphate. This can result in the food sources being nutrient deficient and not providing the required levels of minerals and trace elements to those consuming the produce.

In cases where individuals become low or deficient in minerals and trace elements there are many published articles showing that this can lead to poor health and disease states. It is in these cases that supplementation with a multi mineral containing trace elements may be very beneficial, particularly as minerals and trace elements are used by the body for a multitude of functional, structural, antioxidant and anti-inflammatory purposes plus immune responses.

Minerals play a role in the function and hormone production of the thyroid gland through a number of different pathways. Firstly, iodine acts as a homeostatic regulator of thyroid function via its essential requirement for the production of tetraiodothyronine (thyroxin or T4) and triiodothyronine or T3 (6). The thyroid hormones, in turn, play an important role in basal metabolic rate, red blood cell production, metabolism of carbohydrates, fats & proteins, maintenance of water and electrolyte balance, and blood calcium levels via their production of calcitonin. The thyroid requires calcium and selenium for calcitonin production and low levels of selenium can normalise T4 concentration when iodine levels are low (7). An iodine deficiency (hypothyroidism) during pregnancy has been shown to cause defective development of the foetus which can result in stunted growth, mental retardation, abnormal skin development, and deaf mutism (8). Low zinc, selenium, manganese, and copper can all lead to increased prevalence of thyroid disease (9, 10, 11, 12) and low magnesium can play a role in hyper- and hypo- thyroidism (13).

Two metalloprotein antioxidant enzymes (superoxide dismutase, or SOD, and catalase) depend on specific minerals for their activity. SOD removes superoxide from the body by converting it to oxygen or hydrogen peroxide and catalase removes hydrogen peroxide by converting it to water. In humans there are 3 forms of SOD, one that is in the cytoplasm, one in extracellular fluids and one in the mitochondria. The former two require copper and zinc for their activity (14, 15) while the latter requires manganese (16). Catalase activity is dependent on iron in its ferrous form (17) and has been shown to be involved in reducing the graying process of human hair during aging (18). Immune function is greatly assisted by supplementation with selenium (1), zinc (2), copper (3), and iron (4) but can be adversely affected by excess copper (5) so moderation in supplementation is recommended.

Magnesium is a co-factor for over 300 enzymes in the body and thus plays an active role in many biological functions in humans. Taken orally it reduces leg cramps during pregnancy (19, 20) and can play a part in reducing skeletal muscle cramps (21). Magnesium is also involved in cardiovascular and bone health and it reduces the risk of insulin resistance, arteriosclerosis, neurological disorders, migraines, headaches, stroke and ADHD (22, and references therein). The authors conclude that supplementation is of benefit in most cases.

Calcium is an important component of bones and teeth and supplementation with this mineral has been shown to improve bone density in children and adolescents (23, 24, 25) and reduce femoral and hip fractures in elderly women and patients (26, 27).

Zinc is a very important mineral in human growth and development where it is essential for the health of skin (28, 29), connective tissues (28), and bones (30) plus a major role in growth and cell proliferation (31). Some evidence also indicates a relationship between low zinc status and incidence and severity of rheumatoid arthritis symptoms (32, 33).

Potassium has a protective effect against vascular damage in patients with salt-sensitive hypertension (34) and is important in the management of hypertension (35). Supplementation with potassium reduces the risk of hypertension and increases life expectancy (36).

Molybdenum is an essential co-factor for 4 enzymes but is most important as a co-factor for sulphite oxidase in mitochondria. Sulphite oxidase converts damaging sulphite into sulphate in order to protect the mitochondria and assist with ATP production and to control phosphoadenosine-phosphosulphate (PAPS) activity. The availability of sulphate through this mechanism has an important regulatory role in both neurological and vascular system function (37).

Chromium may regulate insulin levels and thus play a role in reducing type-2 diabetes as it is a major component in Glucose Tolerance Factor. Supplementation with chromium has been shown to increase HDL cholesterol (38).

Boron is an essential trace element important in maintaining bone health. Its action appears to be via vitamin D3 induced calcium absorption and protection of calcium loss by enhancing estrogen activity (39).

Orotic acid is required for pyrimidine biosynthesis and plays a role in the repair of injured myocardium by stimulating the production of glycogen and ATP (40).

Curcumin may provide benefits for patients with type-2 diabetes (41) and arthritis (42) due to its antioxidant and anti-inflammatory properties (43) and has been demonstrated to have potential anti-cancer properties (44).

Equisetum arvense has been demonstrated to reduce the risk of osteoporosis and improve cartilage production possibly due to its high silicene and calcium content (45).

Vitamin K2 (menaquinone 7) is a variant form of vitamin K that is synthesised by bacteria (eg. in the small intestine) and by conversion of vitamin K1 by certain animal tissues such as arterial walls, pancreas and testes. Its best known role is as a blood clotting factor but it also plays a significant role in the uptake of calcium into bones (46, 47) possibly through stimulation of production of the hormone osteocalcin in osteoblasts and is often used as a supplementary treatment for osteoporosis.

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choice for
the best
outcome



ADVANCED MEDICINE

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