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Mineral Transporters

Preventive medicine is the most important guideline to follow requiring less effort and less money for better results in the prevention of illness and the protection of our health. A few of you have already heard of the concepts of active mineral transports in directed therapy.

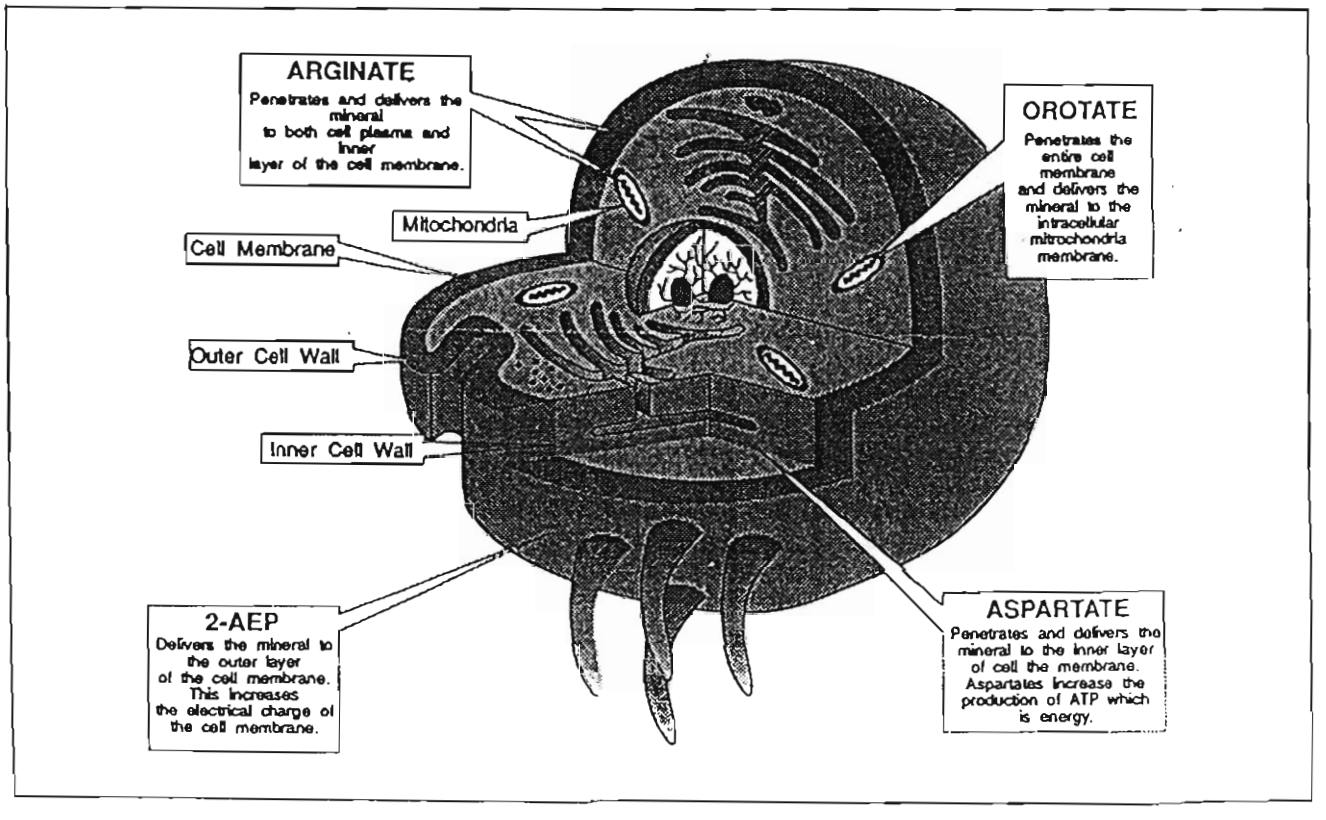
How do mineral transport substances work? They release an ion at a site where we want it to be released. We can write an address on the mineral — on the potential ion — and have it go where we want it to go so that it can exercise its function, either by activation of enzymes, by restoring structure or by sealing against potential aggression. It is a very simple, completely harmless, yet vitally active principle.

Transportation and absorption of minerals involve complex biochemical systems within all cells in the body. Minerals maintain electrical charges which are vital to body physics. A complete understanding of preventive medicine must incorporate both the chemistry and physics of the human body.

Nutrients are only useful when they are readily available at the cellular level. Many nutrients move easily through cell membranes by diffusion. These substances are known to be nonpolar because they lack electrical charges. Positive mineral ions such as calcium, magnesium, and potassium may have more difficulty becoming "bio-available" (available for the body's use) because they have such difficulty passing through cell membranes. For this reason, mineral transporters have been developed to enable a mineral ion to be carried to the cell.

First developed was potassium magnesium aspartate in 1957-1958, providing the more active transport of potassium and magnesium into the cell. It became quite successful world-wide as a substance for the protection of myocardial necrosis, enhancement of liver functions and the detoxification of digitalis. It has been established that potassium magnesium aspartate also decreases the death rate from heart attack.

Since this was so successful, this concept of active mineral transport was pursued and the mineral which had to be transported was changed as well. The most important transporters we have today are aspartic acid, 2-aminoethylphosphoric acid



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(2-AEP), the salt of the amino acid arginine and orotic acid.

Aspartates are minerals bound to the salt of aspartic acid. This transporter delivers the associated mineral to the inner portion of the cell membrane. Potassium magnesium aspartate activates the formation of energy rich phosphates, especially ATP(adenosine triphosphate), resulting in more energy and more oxygen in the blood. To increase the formation of ATP is one of the most important factors in overcoming muscular fatigue and potential risk of muscular necrosis in the myocardium, and in correcting an overspill of the lactate pool is to increase the formation of ATP. The ions transported by potassium and magnesium to the inner layer of the outer cell membrane activate the respective enzymes, which then result in the formation of more ATP.

2-AEP is a substance which plays a role as a component in the cell membrane and at the same time has the property to form a complex with minerals. This mineral transporter goes into the outer layer of the outer cell membrane where it releases its associated mineral and is itself metabolized with the structure of the cell membrane. The effect here is an increase of the electrical condenser function of cell membranes to resist toxins and viruses which may otherwise enter the cell and cause cellular degeneration. Calcium 2-AEP is especially effective for repairing cell membrane damage. In Germany, calcium, potassium and magnesium 2-AEP are officially declared as the only active substances for the treatment of multiple sclerosis.

The myelin is a multilayer of cell membranes. In the case of multiple sclerosis 2-AEP goes to the myelin, fits as a membrane component in the damaged membrane concurrently releasing the mineral which shields against aggression by antibodies.

In a discussion of mineral transporters, it is important as well to stress orotates and arginates. These molecules are mostly taken up by tissue, especially by cartilage tissue, by vessel walls, by the blood brain barrier and by the matrix of the bone. Calcium orotate and calcium arginate perform clinical effects in various diseases connected with decalcification and injury of bones — osteoporosis, rheumatoid- and osteoarthritis — which can rapidly be improved by means of the application of these active mineral transporters.

Another mineral transporter is zinc arginate and aspartate which is officially on the market in Germany and offered as a substance for the improvement in diabetes and of immune defenses. The production of insulin is enhanced by actively transported zinc. Zinc arginate and aspartate activates the thymus gland and the formation to T-informed lymphocytes.

Lithium carbonate activates white blood cells, especially those suppressed by chemotherapy. Unfortunately, carbonates are not well absorbed by the body. Use of this form of lithium requires regular blood level checks by a physician to avoid toxic levels. Conversely, while active mineral transporters lithium orotate or lithium arginate also activate white blood cells, at recommended doses of 450 mg. per day blood levels do not need to be checked. The same applies to the use of lithium transporters to treat manic depression.

Active mineral transporters are simple to use and harmless. In order for the body to utilize a mineral ion, that mineral must be delivered to the targeted site in the cellular structure. Over 30 years of clinical application all over the world has shown that the aspartates, orotates, arginates, and 2-AEP carriers are active mineral transporters that make minerals readily available to the body. □

Dr. Nieper was an active internist living in Germany. He discovered and developed mineral aspartates, orotates, arginates and 2-AEP. The late Dr. Nieper has made major contributions to the prevention of disease and the slowing of the aging