



Helping Parents Make a Difference

The Importance of Mineral Supplementation in Autism

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Whether deficiency of essential minerals is a causative or compounding factor in autism, the fact is that most kids on the spectrum have a greater need for mineral supplementation.

In my work with autistic kids, there are a few key minerals that I commonly see an increased need for. These include calcium, magnesium, zinc and lithium. Mineral requirements also go up for kids who are chelating, as chelating agents such as DMPS and DMSA can bind essential minerals as well as toxic metals.

Assessment of mineral status can be done a couple of different ways. Hair levels may be used as an initial screen. Since hair grows at a rate of 1-1.5 cm/month, a 2-3 cm sample from next to the scalp can provide an average over 2-3 months. I find that minerals such as lithium often show up low on hair tests, and I use this frequently as the basis for supplementation.

Blood levels of minerals can be used as a good representation of nutritional status. They can reflect dietary adequacy – how many minerals are being taken in via food, as well as gastrointestinal function as minerals must be absorbed via the gut to get into the blood. Blood levels can also reflect kidney status, for example, if too many minerals are being excreted due to kidney disease or dysfunction. Mineral excesses can also be identified with blood testing.

Urine mineral levels are often measured along with toxic metals. While unprovoked readings may not be the most accurate representation of total body levels, they may screen for certain kidney dysfunctions such as renal wasting. Provoked readings, that is, readings taken after a dose of a chelating agent such as DMSA or DMPS, are naturally going to be higher and do not necessarily indicate a disease state.

There are also some minerals that are widely recognized as being needed in higher amounts in autism, even in the absence of lab tests showing a frank deficiency. A good quality multi-vitamin such as Basic Nutrients Plus will contain moderate levels of a range of minerals; however to meet the extra needs of autistic kids, some additional individual minerals must be added.

Calcium is one of the major ones, particularly for kids on the GFCF diet as they miss the dairy source of calcium. Magnesium is typically given to balance calcium. While young kids need 1000mg of calcium per day (divided into 2 doses), magnesium requirements hover somewhere around 200-400mg level. Excessive levels of magnesium may cause loose stools. I frequently find that the zinc to copper ratio is skewed, with insufficient zinc to balance the potentially toxic effects of copper in the body. Therefore many of the kids I work with are supplementing with 30-50mg of zinc. Zinc should always be given away from calcium. Molybdenum also competes with copper in the body and can be used to reduce excess copper levels; however this should always be monitored by a physician to ensure that copper levels do not go too low. As Dr. Shaw's article points out, lithium deficiency is also quite common, and giving liquid lithium can often make a difference with mood stabilization and improvements in behavior.

Minerals come in several different forms, and it is important to make sure high quality minerals are being given, as lower quality/ cheaper ones will be found in forms that are not well absorbed by the body such as carbonate forms.

Citrate forms of calcium and magnesium are well absorbed by the body. New Beginnings carries these in powder, capsule and chewable forms. The citrate form of calcium and magnesium is particularly

beneficial for those following a low oxalate diet, as the citrate molecule competes with oxalates for absorption. The new cherry flavored Calcium Chewable with Magnesium is an easy form of calcium to give – it really does taste great!

Minerals can also be found in chelated form. The term "chelate" originates from a Greek word that means "claw." In this process, be it either in the laboratory or in nature itself, a mineral is "chelated" with an amino acid. The amino acid actually surrounds the mineral like a claw and thereby helps to solubilize it, making the "mineral chelate" more bioavailable or useful to the body, as well as increasing its stability. In many cases, chelated minerals are about 40% more efficient in regards to absorption and assimilation into the body than regular minerals. Calcium, magnesium, selenium and zinc are all available in chelated forms from New Beginnings.

Increasingly, minerals are being given in ionic form. Ionic minerals are also well absorbed because of their very small particle size and high solubility. Being so small, they can be absorbed by the body without the need for them to be broken down through the process of digestion. Ionic minerals are bonded to ultra-pure water for easy absorption into the cells.

New Beginnings' Chelate-Mate is a great mineral replacement formula that is used in conjunction with chelation therapy or as an every day mineral support. The minerals are in ionic form, and it comes as a liquid that is easily mixed with fruit juice or in water with a drop of stevia for taste. Ionic calcium, magnesium, zinc, lithium and molybdenum are also available individually to meet increased needs for these elements.

Mineral replacement and support is one of the key elements in the biomedical treatment of autistic-spectrum disorders. Given that heavy metals can displace essential minerals, it follows that chelation therapy can actually help the mineral balance in the long term. There are many different forms of minerals, and the ones you choose for your child will be based on their preferred form for good compliance, information gained on their lab tests, and the recommendation of your doctor. Good luck in your quest for mineral balance!