



THE ROLE OF MINERALS AND KEY METALS IN THE BODY:

How What You May Not Know Can Hurt You



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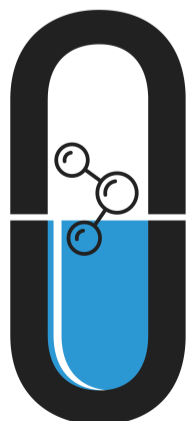
Disclaimer: The statements made herein are based on traditional mineral uses and studies of the ingredients and have not been evaluated by the FDA.

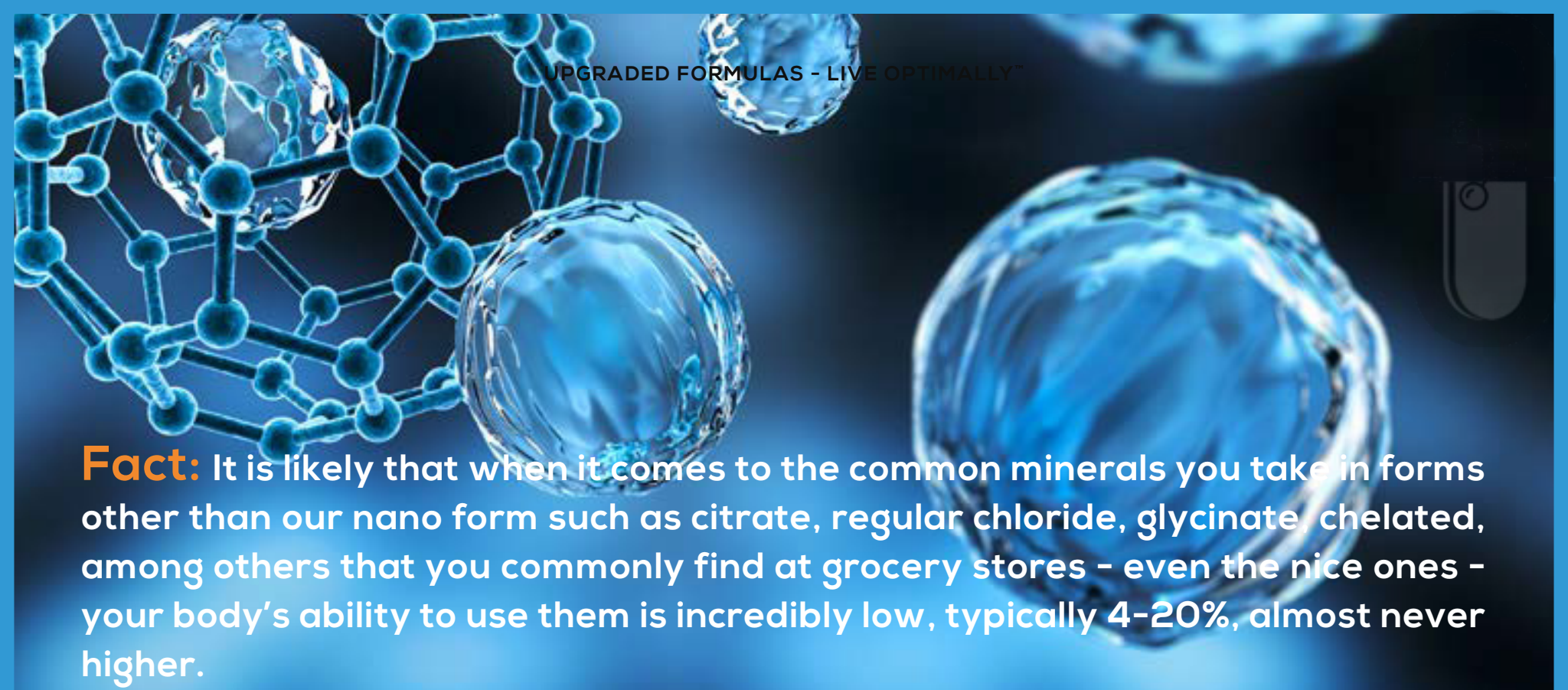
The Role of Minerals and Key Metals in the Body:

How What You May Not Know Can Hurt You

This is meant to quickly cover each of the minerals needed for foundational health. Right now before we begin I would like to ask you to check in with your body and see how you feel physically, see how these temporary qualities have an effect on your mood and drive your disposition.

We find that the most unhappy people are the most out of balance from a mineral standpoint and a blood pH standpoint, both of which drive toward chronic inflammation in the body, a precursor for nearly all forms of cancer and disease, which can be thought of as dis-ease.





Fact: It is likely that when it comes to the common minerals you take in forms other than our nano form such as citrate, regular chloride, glycinate, chelated, among others that you commonly find at grocery stores - even the nice ones - your body's ability to use them is incredibly low, typically 4-20%, almost never higher.

This is where we come in. At Upgraded Formulas we use a proprietary process to get minerals into a form small enough for them to be cell-ready. We start off, for example with raw, USP graded Magnesium Chloride that is US only sourced, versus from lots of companies who use the much cheaper minerals from China that have often been reported to have high levels of heavy metals.

Ionic is also a broad term that can be used to describe anything smaller in particle size than a small pebble. Problematic, certainly. It is one very misused term. The source of the problem is a blind lack of knowledge - with our products our patients, doctors, and customers report feeling a difference between our products and what they previously thought were similar products. The fact is most of the companies are blindly deceiving people because they themselves are simply marketing companies in all practicality and do not understand the actual chemistry behind a truly effective process.

Other problematic phrases and definitions that give people trouble are colloids, these are particles which are suspended in a protein encapsulation, and are also far too large to be cell-ready - in other words they cannot be absorbed by the body unless fully digested by the liver which is a rare event.

Fact: Colloid minerals can actually build up in your joints causing stiffness. Stiffness that you paid for. **Yes, this is scary to think about and beyond frustrating to pay for.** **Suggestion:** Avoid these at all costs.

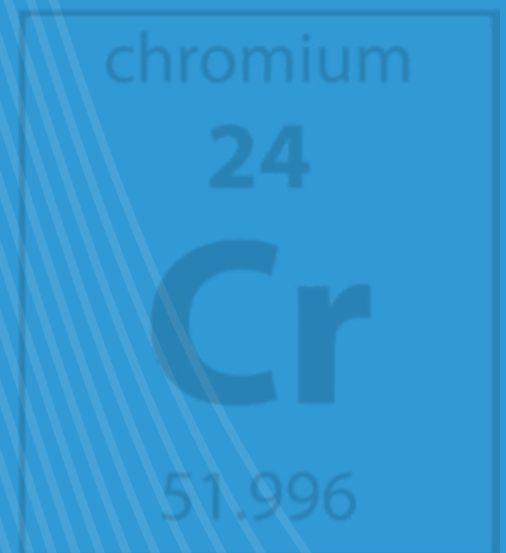
Science has shown that the category we have created of liquid nano minerals are without a doubt the best delivery of minerals available and we will continue to evolve with future scientific findings if and when they evolve in this area. For further reading on this topic you can explore the **Validation of Dietary Supplementation** by the Institute of Nutritional Science.

What You May Not Know

Let's kick things off with Chromium!

Chromium

Regulation of insulin, blood sugar, cholesterol and possibly mood. Plays a heavy role in the production of serotonin so some evidence has shown it is needed to stave off depression.



Iodine

What most people care about from a vanity aspect would be that Iodine is essential for keeping hair skin and nails looking their best, but also very critically for: Production of the hormones produced by the thyroid. The result is more mental clarity, detoxification, antiviral support, and improved metabolic function.

Boron

Boron supports brain function, awareness, hormones like testosterone and bone health via appropriate utilization of magnesium, calcium and phosphorous. Boron doesn't make the nightly news very often and thus is often overlooked, therefore be sure to make sure it is present (in a highly absorbable form) in your regimen.



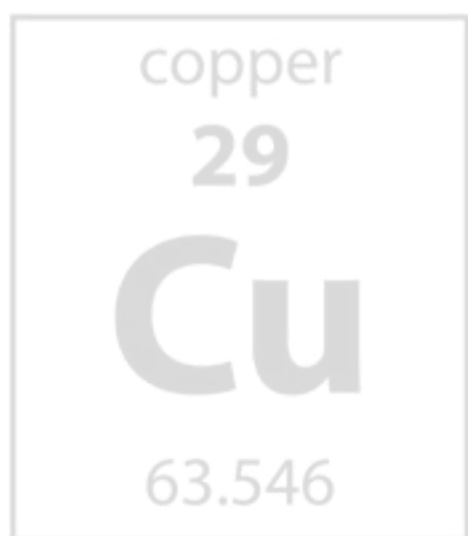


Zinc

Similar to iodine, zinc has natural antiseptic and antibiotic properties and therefore the immune-supporting quality we hear touted often but where it really shines is that is not commonly known is in tamping down hunger/sugar cravings and supporting healthy blood sugar levels in the body that can prepare the body to be able to more readily accept an sudden influx of sugar - i.e. cheat day when you go wild and eat an entire fill in the blank of your favorite sweet indulgence. Oddly enough, despite zinc being great at blood glucose management, it is also somehow great (and necessary) for assimilation of protein from the diet. Certainly a powerhouse. Certainly something you will want to ensure you are not deficient in.

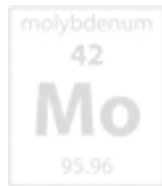
Copper

Copper is often overlooked in its healing and balance-correction-potential. Zinc is so commonly touted yet, despite all the great benefits of zinc supplementation, it disperses copper from the body when taken in excess. This is where the hair analysis we provide on the website is critical for demonstrating in bar graph format, exactly what your **Copper to Zinc ratio** is and what you specifically need. Understanding this value is easy and immediately apparent after looking at your results from your first hair analysis.



The additional critical influences of copper are notably a role in both healthy thyroid function and proper enzyme function, cholesterol regulation, liver function, and is necessary for the creation of hemoglobin.

Molybdenum



The air we breath contains a large percentage of nitrogen. Roughly 78%. Molybdenum helps us metabolize air. Fatigue is a common symptom of molybdenum for this reason I believe. That reason is specifically that when you consider the previous statements it is as though we are eating our air and that molybdenum is acting as an digestive enzyme of sorts for the air we breath in. It is something to consider testing for if you feel shortness of breath, with our hair analysis sold on our website being a great source of knowledge around this mineral.

Low iron also results in fatigue and guess what, MolyB as it is often called, supports proper iron storage, which plays a role in thyroid function and therefore energy production.

PRO TIP: This is a common missed area of optimization for athletes and biohackers alike who simply want to get the most energy, focus and performance they can.

Manganese

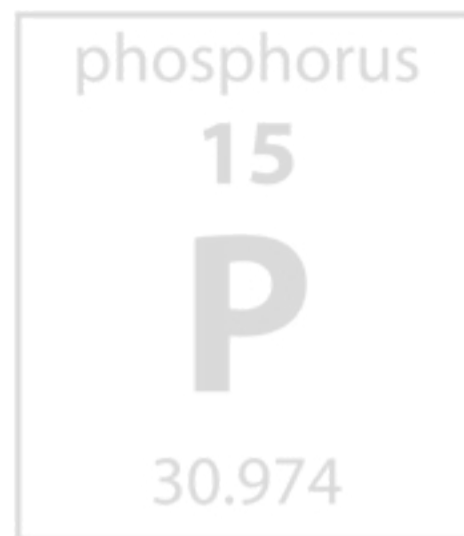


As a nutritionist reviewing many of our hair analyses, manganese is one of the minerals I have seen a deficiency in over and over. Virtually everyone is deficient in it and virtually everyone also suffers – at least on occasion from reduced working memory and sagging skin since Manganese supports collagen formation and the internal linings of many organs.

Critical to health and well-being? Yes certainly. Low thyroid function? Low levels of Manganese may be the last place you test but after reading this it should move way up your list. Why? An ever-increasing portion of the world population is suffering with undiagnosed low thyroid symptoms and this can be linked to mood, and brain function, and as I mentioned, manganese is something an overwhelming percentage of our clients who order a hair analysis on our website are found to be deficient in.

Phosphorous

Phosphorous is synonymous with intelligence. It is possible to virtually guarantee that you are not experiencing your best life when you are working with a low level of phosphorous. **Phosphorous helps with preventing fatigue, loss of bone density, and more touch and go things, things that are harder to quantify such as sensitivity to noise, digestive problems, fearfulness, and lack of confidence - likely a feedback from not feeling your mentally sharpest!**



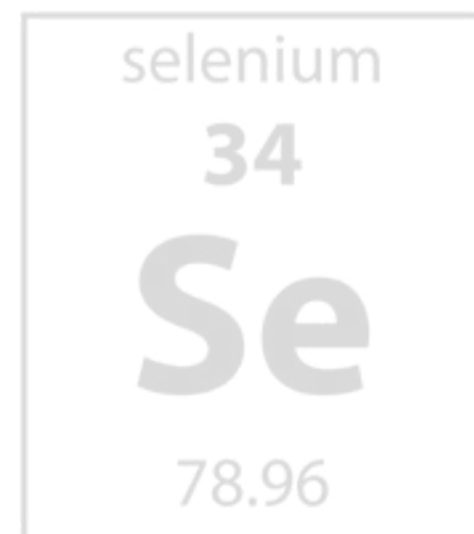
Potassium

Recent studies have shown 98% of people tested for healthy potassium levels did not meet the acceptable range. It is a real problem and one we look to help address with Upgraded Potassium in nano mineral form that allows for very high levels of absorption. Potassium is needed in the body for energy production, protecting against and supporting adrenal fatigue, pH balance, proper amounts of sodium retention, proper kidney function, electrical impulses - including heart and brain.



Selenium

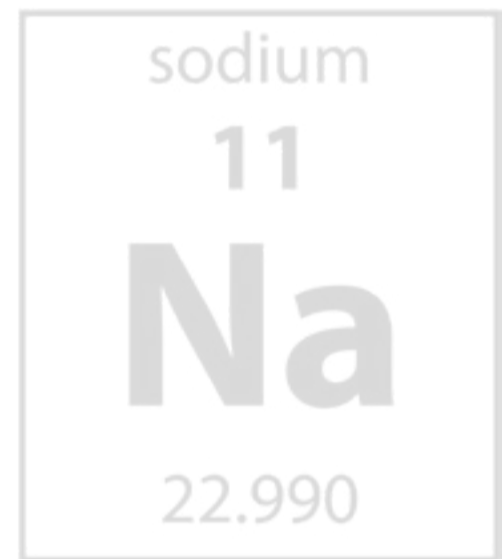
Aging gracefully is something that is on everyone's minds after a certain age. Selenium is a necessary ingredient for warding off the signs of early aging because it is an antioxidant. It also works in the body by supporting the immune system, studies have shown that adding more selenium to your diet can drastically reduce cancer rates. The best way to understand where your personal levels are - those in your body and brain right at this moment is to order a hair analysis - go to [upgradedformulas.com > products](https://www.upgradedformulas.com/products) to order a kit to be sent to your home, and see the video on the product page to answer any questions you have regarding the test, how to take a hair sample, where you can take a hair sample from your body and anything else you would like to know.





Sodium

In the past few years sodium has gotten quite demonized, this has led to some people cutting out sodium from their diets almost completely. Back in the early 2010s there were many people making this mistake. This led to severe electrolyte depletion. The body needs around 2300 mg of sodium each day (about 1 tsp).



The necessary multi-dimensional balance between sodium, potassium, magnesium and calcium must be maintained since it is one of most critical mineral balances in the body, driving energy production, sleep, mood, bone health, and muscle function.

Therefore ignoring sodium is a fast track to unsavory levels of health. The best way to ensure you get the sodium you need is a half tsp of sea salt in a pint glass first thing in the morning.

Schedule a session with a trusted nutritionist or naturopathic doctor if you have high blood pressure or heart problems since having not enough sodium or too much can cause the same problems in some case. **The Bottom line:** The hair analysis for heavy metal testing and mineral status testing is a great tool since it shows ratios of Na/K, Na/Mg, and Na/Ca so I advise that you pick one up today as a first step and savvy investment in your health and that of your family.



Sulfur

Having great skin and joints that work smoothly is a losing battle without proper amounts of sulfur. Why? Because sulfur is the primary element in skin and acts as a lubricator of joints, so you absolutely need it in proper amounts. Other roles sulfur plays in the body include: motor function, and bile secretions—think: necessary component for good digestion.

Vanadium

Certainly one of the lesser known of the bunch, Vanadium is a metal, and is critical to optimal blood sugar management since it has insulin-mimicking properties. This is good news.



Those of you pursuing intermittent fasting, the ketogenic diet, or any protocol where optimum blood sugar is a focus, (which it should be a key focal point for everyone who wants to live optimally) wanting to eat more carbs with minimal effect on focus and energy, and/or those of you looking to maintain a narrow blood sugar window for health reasons such as hyperinsulinemia, cancer, seizures, and diabetes ought to explore this more deeply. Since vanadium is so often overlooked yet, **so poorly absorbed via the digestive tract, and yet so crucial** we included nano vanadyl sulfate in our **Upgraded Glucose Support blend**.

Why? Again because cell-level absorption that does not rely on liver processing is ideal so we use the best science available for absorption (without digestion) namely, minerals and key metals like vanadium in nano particles sizes smaller than 100 nanometers. Ideally, our patients do a test using the at-home hair analyses kit done before and after supplementing with **UGS** to support this.



Magnesium

So much can be said about magnesium. Since magnesium directly balances, and is directly balanced by calcium, potassium, phosphorus, and sodium - not to mention toxic metals like mercury, It is one of the most well-known. **YET** somehow **80% of more of people are deficient in it.**

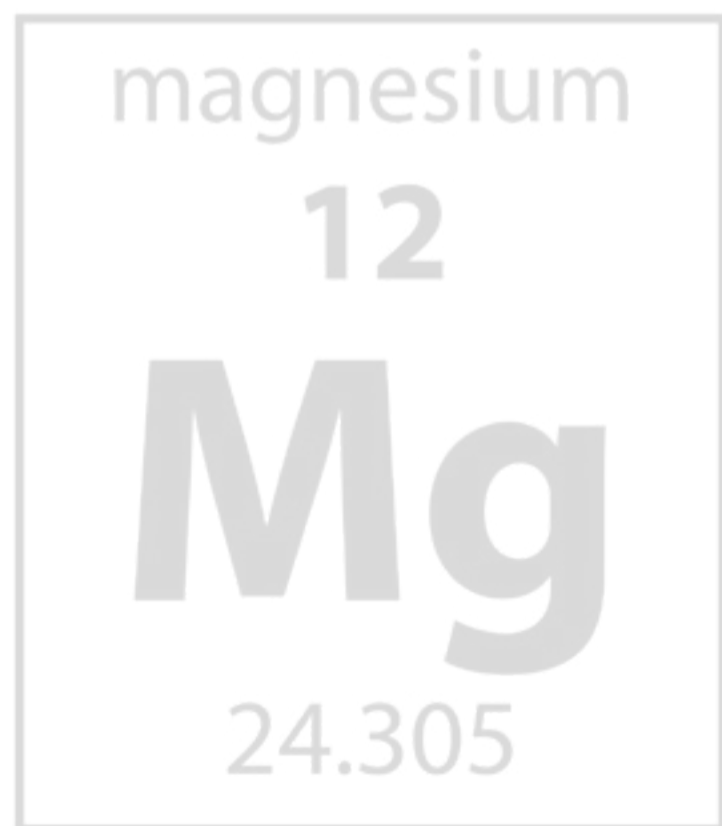
Are you looking to stay looking and feeling young? Most of us are. Magnesium is a crucial life giving, anti-aging mineral for a number of reasons outside of the scope we have available here.

It is also critical for 700-800 critical functions in the body including ATP production (energy) and melatonin production (sleep) - what does that mean?

Many things will NOT work well or at all in your cells of your every organ without enough of this mineral.

Safe bet:

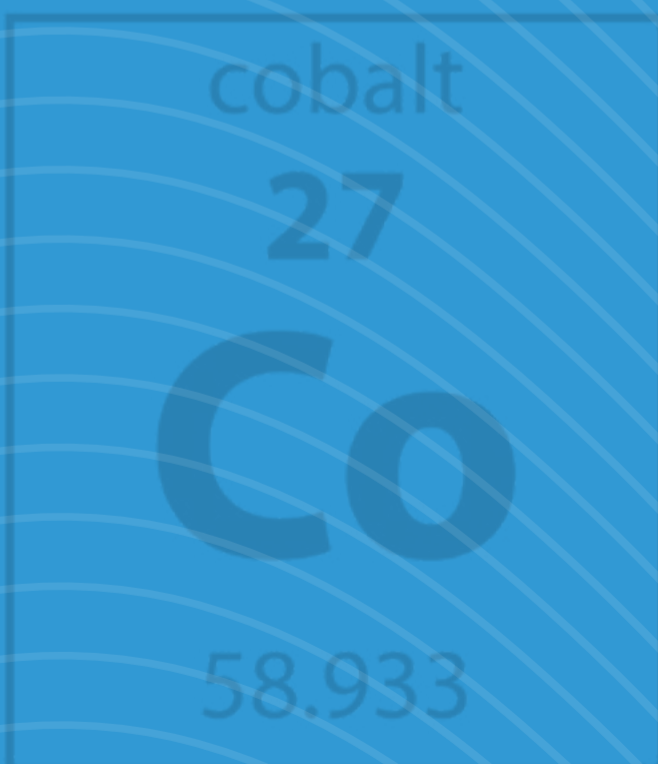
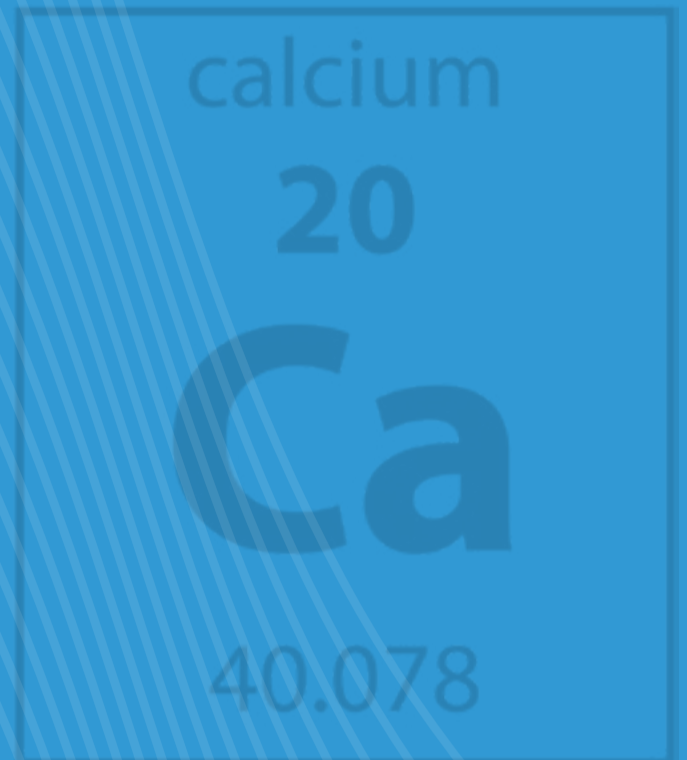
You need to consume **AND ABSORB** more each day than you currently do - especially if you feel overwhelmed on a frequent basis - but the mineral deficiency test will show this so you don't go off blindly and begin taking far too much (can be dangerous or at the very least cause the body to push out Potassium, Sodium, and Calcium that you desperately need to hold on to).





Calcium

Many people have plenty of calcium but some medications can cause poor absorption of calcium, though it is more likely they will cause a reduction in magnesium, which drives the level of calcium higher. For this reason, among others, calcium (and vitamin D which aids the absorption of calcium) should be taken in the presence of magnesium. Keys: Calcium is key for bone and tooth health, proper muscle contraction, and healthy nerve signal transmission and blood clotting.



Cobalt

A good source of cobalt can typically be found in B vitamins. Alcoholics and people that drink often typically present a deficiency. Cobalt is an iron helper and is used for proper assimilation of iron and the healthy construction of red blood cells.



Lithium

Lithium is being rediscovered for mood disorders, suicide prevention, and mental health disorder. This has the chance to be hugely impactful for some people, yet when many people think of lithium they are conflicted by outdated and inaccurate information. Instead of focusing on what you may have heard that is now old news, let's get to what lithium can do for you if you have a deficiency (We recommend testing for lithium before taking what may be considered a large dose with frequency) which has been fairly common in the hair analyses I have reviewed myself in recent memory.



A popular article recently published by The New York Times entitled Should We All Take a Bit of Lithium has gained much credibility and includes statements such as “Dr. Nassir Ghaemi, a professor of psychiatry at Tufts University School of Medicine and one of the most active and informed proponents of lithium in the medical community, notes: “Lithium is, by far, the most proven drug to keep neurons alive, in animals and in humans, consistently and with many replicated studies.” And, he added, “If lithium prevents dementia, then we may have overlooked a very simple means of preventing a major public health problem.”

and that: “Some scientists have, in fact, proposed that lithium be recognized as an essential trace element nutrient. Who knows what the impact on our society would be if micro-dose lithium were again part of our standard nutritional fare?” So decide for yourself how to interpret the article and consider a conversation with a health professional who has been properly trained in nutrition, but do update any facts you have: The scientific community does seem to be in agreement that no lithium or not enough lithium in the body is bad news for you and your loved ones and small microdoses may be part of the path toward living optimally. You can likely guess our stance – stay tuned for Upgraded Lithium if it isn't already out by the time you read this / share this.

Iron

Anemia. Depression. Fatigue. Irritability. Forgetfulness. Hearing difficulty. Headaches. Fingernails and toenails that break easily. Constipation. Confusion. Thyroid issues.

Iron deficiency is related to all of these and plays a part in many more problems. How could it be any other way, and why is iron so critical? As a key component of our bodies, iron improves circulation over the same iron-deficient blood as it ensures our blood is properly oxygenated by attracting oxygen to the body, which makes iron a factor in all virtually biological processes.



Silica

The best for last? Possibly. Silica is not well understood by most yet the facts are there. Here's why it may be best to experiment with upping your intake of silica. Remember source matters. Absorption matters - you aren't what you eat, you are what you absorb.

Silica is found in membranes, tendons, ligaments, the digestive tract, the tone of sexual organs and your skin. It is needed for collagen formation, something everyone cares about these days, and is critical in its influence of brain function, sexual function, and the nervous system. Silica can also do a very good job of binding with aluminum to remove it from the body which makes it a great tool in heavy metal detox and day to day health.

Increasing levels of silica in your body look like this after several months of taking an appropriate amount of highly bioavailable silica: More energy, more vitality, more confidence in mobility, increased alkalinity resulting in a lighter, less stressed feeling, increased libido, improved mood, faster healing, less falling hair, better looking nails and hair and skin, the sensation of a strengthened spine, increased core body temperature for those suffering from low body temp, i.e. feeling cold often, even in warm climates, reduction in swelling around joints, and improved workout recovery time.





A bit of housekeeping

How much of these minerals you absorb really matters and it is almost entirely expensive pee with some products, so choose wisely.

Fact: Brightly colored urine either means you didn't absorb some portion of what you paid for OR you are dehydrated, which, if you drink plenty of water, and it has been at least a few hours after you have gotten out of bed and started your day, then it is with high degree of certainty something you are taking which you are not absorbing = **not supporting your health properly AND not putting your money to good use.**

What does not absorbing really mean to your health and to your time and wallet? Simple. It means some large portion of your money has been wasted. Yikes, right? This is way to common to be comfortable. This also costs you lost time - time spent swallowing pills and opening lots of bottles and all for what? Have you seen clear improvement in your health or reduction in your symptoms. It is likely that what you are doing from a mineral supplement standpoint is not working and furthermore actually contributing to the problem in the case of certain types of minerals such as colloids as you will read about below.



About The Author



Resolving my own mineral deficiencies was the largest part of my healing journey. I knew I wasn't absorbing enough of the minerals I needed when test results showed I was chronically deficient in minerals like magnesium which I had been taking daily for years. I knew then I had to use my knowledge to create something much better so people just like me and you could heal and get on with our lives. I hope this has been helpful and that you will take the right action and begin to live optimally.

Barton Scott

Barton Scott, is a both Chemical Engineer and Nutritionist by training, and is the founder of Upgraded Formulas. Upgraded is focuses on identifying mineral deficiencies through at-home testing kits and supporting these deficiencies with a new category of supplementation he has developed called Liquid Nano Minerals with the understanding that when minerals are better absorbed they increase life span, health span, focus, sleep quality, and slow the process of aging.