https://thetruthaboutcancer.com/trace-minerals/

Trace Minerals: What They Are and Why the Body Needs Them to Function

By Ty Bollinger
August 16, 2017
1,826 Facebook Shares

Have you ever gone to try to start your car only to find that the battery was dead? Most of us have been there. For me it always seems to happen when I'm in a hurry to make an appointment or get to an important meeting. It's usually nothing that a simple jump can't fix, but it's still a hassle. One that's especially frustrating when I know that I caused the problem by forgetting to turn off the lights or leaving one of the doors ajar.

Why am I venting about my car and one of life's relatively minor foibles, you might be asking? As I was pondering how something so seemingly minor as a dead battery can completely disable a vehicle, it dawned on me… our bodies are similarly dependent on vital minerals in order to "start" and continue "running." Just like how a battery provides a vehicle with the electrical charge it needs to get going, **minerals create the energetic spark that our bodies need to perform many essential, life-giving functions**.

In a perfect world, we would get all the minerals we need from the foods we eat. But unfortunately, our soils aren't as healthy as they used to be. A 1992 study found that U.S. soils contain a shocking 86% fewer minerals today than they did 100 years ago! Because of heavy food processing and poor diets in general, most people don't get nearly enough of them. **The result is widespread mineral deficiency and an epidemic of chronic disease**.

What Are Trace Minerals?

By definition, a mineral is really any inorganic substance that occurs naturally and has an orderly crystalline structure. Rocks, metals, and soils all contain minerals, as does the water in the earth's oceans. If you recall the periodic table of elements from science class, you'll find many minerals listed there as well. In general, minerals function as a key constituent of solid, non-living matter, which is found virtually everywhere in the natural world.

Minerals can also be energetic, bearing a unique vibrational "charge" that gives them special catalyzing potential (note: catalyzing means to cause or accelerate a reaction). These types of minerals are absolutely vital for the human body, though in much smaller quantities than what you'd find in a slab of granite, for instance. **We typically refer to these tiny energetic minerals as trace minerals because our bodies don't need much of them to see big results**.

Of the 103 known mineral varieties, at least 18 of them (and likely far more) fall into the trace mineral category, and are recognized as playing a critical

role in human health. These include iron, zinc, magnesium, manganese, copper, phosphorus, molybdenum, iodine, chromium, potassium, selenium, sodium, chloride, sulfate, and boron. Our bodies require each and every one of these trace minerals in proper balance to facilitate health and wellbeing.

The Many Functional Roles of Trace Minerals

Much like how elemental minerals buttress rocks and other solid structures, **trace minerals serve as reinforcement for bones, cartilage, and other bodily tissue**. While they might appear solid and unchanging, your body's bone structure is in a constant of repair and renewal. Trace minerals function as the lattice architecture. Calcium, phosphorus, and magnesium are among the primary minerals that keep bones healthy and strong.[1]

The cellular system also relies on trace minerals to produce red blood cells, also known as erythrocytes, that deliver oxygen throughout the body for energy production. These red blood cells specifically require iron in order to transport this oxygen. Without it, there would be no magnetism, so to speak, to draw in the oxygen, resulting in a total breakdown of the energy creation process.

Your muscles and central nervous system also require trace minerals in order to facilitate nerve impulses. **Without them, the muscles in your heart would fail to contract, your brain would stop functioning, and your organs and body wouldn't be able to move or flex**. Among those trace minerals needed to facilitate the healthy functioning these important systems is potassium, which helps to maintain the proper balance of water inside your cells.

A strong, functioning immune system is contingent upon trace minerals as well. Your immune system requires minerals such as zinc to fight infections, heal wounds, and repair damaged cells. Selenium further supports the body's ability to ward off heart problems and even protect against the formation of cancer cells.

Trace minerals may further help to:

- Nourish hair and skin
- Enhance circulation
- Improve digestion and bowel function
- Facilitate the transfer of nutrients across cell membranes
- Regulate the body's maintenance and growth of cellular and muscle tissue
- Balance the contraction and relaxation of muscle tissue
- Provide both structural and functional support for the body's vital systems
- Normalize pH levels and prevent an overly acidic state inside the body
- Improve cellular communication
- Liquify stagnant and toxic lymphatic fluid
- Facilitate countless other metabolic processes important for maintaining life

Signs & Symptoms of Trace Mineral Deficiency

Here's a particularly interesting fact about trace minerals… when they're present in high enough amounts in the bloodstream, the end product is not much different than the composition of natural seawater. That's right: **healthy blood plasma contains roughly the same concentration of minerals as the ocean**.

In fact, many trace mineral dietary supplements are made from seawater that contains high levels of sodium and many other important trace minerals. These include some you may not recognize such as beryllium, dysprosium, neodymium, praseodymium, terbium, and ytterbium.

Consider this: an 1897 study by French scientist Rene Quinton revealed that human cells can fully survive in a solution of “ocean plasma” seawater because of its powerful isotonic connection with mineral-rich blood. After draining a sick dog almost entirely of its blood and replacing it with a saline transfusion of diluted seawater, the dog reportedly lived for another five years and suffered no long-term adverse effects. This same study was replicated 50 years later with similar results.[3]

It’s when the blood becomes less like seawater that problems start to arise. Symptoms can vary widely depending on which minerals are lacking, but deficiencies tend to show up as the opposite of sufficiency. A few examples might be nerve and muscle pain or tingling due to a lack of nervous system minerals like potassium. Weakening bones or osteoporosis might indicate a lack of magnesium or calcium.

Common Symptoms of Mineral Deficiency

Other common symptoms of mineral deficiency (as well as some corresponding examples of the mineral deficiency potentially responsible) include:[4]

- Anemia (lack of iron)
- Poor digestion, brain fog, poor appetite, and chronic fatigue (lack of magnesium)
- Excessive fluid loss, abdominal pain, and bloating (lack of potassium)
- Loss of libido, poor immunity, inability to fully digest protein (zinc deficiency)
- Muscle cramping, tingling in the extremities, and irregular heartbeat (calcium deficiency)

How Does the Body Get Maximum Benefit from Trace Minerals?

How does the human body take full advantage of everything that trace minerals have to offer? These microscopic nutrients must carry with them an electrical charge that leans one way or another energetically. In other words, bearing either a positive or negative charge. This puts them into an “unstable” state, allowing them to aggressively seek out some other substance or element to bond to in order to achieve a state of equilibrium.

We call these types of trace minerals “ionic,” which is really just a fancy way of saying that they’re extremely bioavailable and ready to bond. One of the things they love is water, which just so happens to be the substance that makes up the bulk of the human body. Since they bond very easily and quickly to water, **ionic trace minerals are a perfect match for optimal absorption by the body**.

Most of the action takes place in the small intestine, where ionic trace minerals are pulled through mucous membranes and delivered to the bloodstream. Once in circulation, these powerful micronutrients can immediately begin their important work of maintaining and rejuvenating the many vital systems of the body.

“Trace minerals do not exist by themselves, but in relationship to one another,” says Alexander Schauss, PhD, senior director of research at AIBMR Life Sciences, about the interdependent nature of ionic trace minerals and their need to bond.[5] “Too much of one trace element can lead to imbalances in others…Most trace elements need to be in ionic form to be well absorbed in the intestine.”

Trace minerals must further be ionic in order to function as vital co-factors in the facilitating of enzymatic reactions throughout the body. Enzymes are the biological molecules that catalyze nearly every chemical reaction that occurs inside the body. If they don’t have access to ionic trace minerals, enzymes have a tough time supporting things like healthy digestion and metabolism. (If

you suffer from digestion or metabolism disorders, this can often be an indication that the body is suffering from a mineral deficiency.)

One way to avoid mineral deficiency is to consume plenty of traditional foods produced in harmony with nature. This means fruits and vegetables grown organically using biodynamic farming methods that help enrich the soil with beneficial bacteria and, of course, trace minerals.[6] Conventional produce is typically grown in “dead” soils that are heavily sprayed with pesticides and herbicides that further deplete their mineral content.

If you eat meat, stick with grass-fed, pastured varieties. Grasses and other plants are loaded with vitamins and trace minerals that end up in the meat. Conventional meat derived from animals fed grains is typically lacking in trace minerals, as well as other important nutrients like omega-3 fatty acids and other healthy fats.[7]

There are also dietary supplements on the market in both liquid and pill form that can help to replenish your body with highly-bioavailable, ionic trace minerals. Those derived from natural seawater will often contain the full spectrum of ionic trace minerals for maximum potency and functional effectiveness.