

Among the elements of the chemical periodic table are both essential nutrients and toxins. Certain elements are critical to health, for example: potassium and sodium are crucial for proper heart function while calcium and magnesium are essential for bone development. However, other elements like mercury, cadmium and lead are toxic. Good health depends on having the right balance of nutritional elements and low levels of toxic elements. Hair element analysis is an easy and inexpensive way to measure levels of toxic and essential elements.

Conditions Related to Toxic Element Exposure

Toxic elements are found nearly everywhere: from antimony as a fire retardant in clothing, to uranium salts in certain pottery glazes. Toxic elements may create an imbalance in essential elements (see explanation on reverse) or directly trigger a number of health problems including:

Anxiety/Depression: Both lead and mercury toxicity can result in symptoms of depression. Arsenic and mercury have been associated with symptoms of anxiety.

Memory Impairment: Lead can impair long term memory and cause confusion. Cadmium may also cause confusion.

Heart disease: Toxic levels of antimony may damage the heart. Cadmium increases blood pressure and may also damage heart muscle. Lead has been shown to increase blood pressure.

Neurological problems: High arsenic levels may cause numbness and tingling in the feet and hands. Extremely high levels of bismuth may also cause neurological problems like muscle twitches, tremors or convulsions.

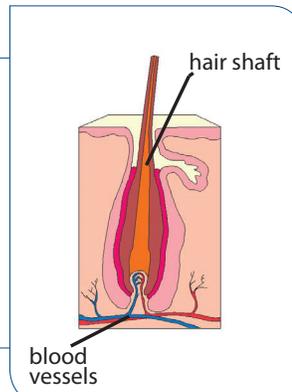
Fatigue: Any of the toxic elements can contribute to symptoms of fatigue even at relatively low levels of exposure.

Conditions Related to Essential Element Imbalance

Simple deficiencies or excesses of essential nutritional elements may also occur. For example, low levels of zinc and/or magnesium are strongly associated with increased risk of diabetes. If all or most of the nutritional elements appear on the low end of normal, it may indicate that you have issues with absorption or digestion of food.

Why choose Hair Element Analysis?

The illustration at right shows that the hair root is in constant contact with blood vessels, allowing both nutritional and toxic elements to enter the hair shaft continuously as hair grows. In other words, hair analysis reflects long-term exposure to the various elements. This is a significant advantage over urine or blood samples, which only measure the levels from one point in time.



Elements or Minerals

Although sometimes referred to as hair mineral analysis, it's technically elements, not minerals, that are being analyzed. The term mineral includes stones like diamonds and emeralds, which are rarely found in hair! Thus, our test is called Hair Element Analysis rather than Hair Mineral Analysis.

Essential Elements

Many elements are essential to the body. Essential elements include calcium, magnesium, sodium, chlorine, phosphorus, and potassium. Other essential elements may be required as cofactors in biological processes.

The right balance of essential elements is essential for optimal health.

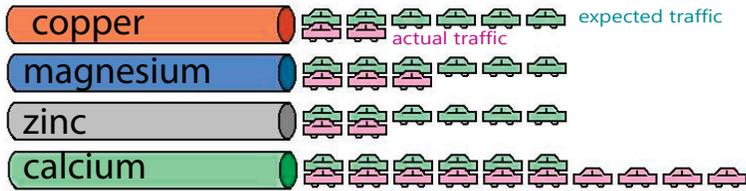
Toxic Elements

Some elements are highly toxic to the body. In particular, elements high on the periodic table called 'heavy metals' are known to be toxic. Even in small doses, these 'heavy metals' may replace essential elements and interfere with biological processes.

Hair Element Analysis

How Toxic Elements Disrupt Nutrient Balance

Think of each nutritional element as having its own tunnel, with "normal" being the number of vehicles that usually pass through that tunnel every day. For example, the following diagram shows the *expected number of cars in green*, and the *actual number of cars in pink*:



The diagram shows more calcium than expected and less magnesium, copper and zinc exiting the tunnels. From these results, it might seem reasonable to supplement with magnesium, zinc, and copper and cut back on calcium intake. However, when nutritional elements are much higher or lower than expected, it usually means there's some kind of blockage or traffic diversion in the tunnels. So, we do some calculations to see if traffic is really increasing or decreasing, or to see if there's a problem inside the tunnel. In other words, if you have a lot of lows and highs in your nutritional elements, there may be an overall problem with how those elements are getting transported in the body. Your healthcare professional will focus on fixing those problems first, before supplementing with specific nutritional elements to correct the imbalance.

A common cause of large excesses or deficiencies of nutritional element levels is the presence of toxic elements like mercury. Think of toxic elements as being like a demolition crew: they go into tunnels, rip up the road and disrupt the normal traffic flow so that cars are forced to take a different tunnel. If tunnel traffic (i.e. nutritional elements) is significantly different than expected, it strongly suggests that a demolition crew (i.e. toxic element) is present and causing problems. Therefore, rather than trying to force more cars through the slow tunnels and fewer cars through the congested tunnels, it makes more sense to get rid of the demolition crew!

It's also possible to have a genetic tendency to retain or excrete certain elements, or for poor digestion to affect nutritional element status. Your healthcare professional will go through your test results and determine the best treatment for you.

Restoring Balance

Restoring the right balance of elements often involves using supplements that chelate, or bind up, toxic elements so that they can be safely eliminated. It is also important to try and minimize exposure to toxic elements. Once the body is clear of toxic elements, your healthcare professional may want to repeat your hair element analysis to see if your nutritional elements are back in balance, or if you need further supplementation.

Why Test?

Good health has a lot to do with maintaining balance; the right balance of work and play, the right balance of nutrients in the diet, and the right kinds of foods.

Element imbalances may contribute to symptoms and biochemical changes that eventually lead to illness.

Rocky Mountain Analytical is committed to offering tests that identify imbalances and other conditions - so they can be corrected before disease develops!

About Us

Rocky Mountain Analytical was founded in 2002 with a mission to offer tests that focus on early identification and prevention of disease.

Rocky Mountain Analytical is an accredited medical laboratory located in Calgary, Alberta. Accreditation means tests performed by Rocky Mountain Analytical are regularly reviewed for quality, accuracy and reproducibility by the College of Physicians & Surgeons of Alberta.

Ask your healthcare professional whether a test is right for you.

Information is for educational purposes only. It is not meant as medical advice and any treatment decisions should be made with the knowledge or consent of your healthcare professional.



Rocky Mountain Analytical™
Changing lives, one test at a time
an accredited medical laboratory