



Discover True Clinical Utility
with the Industry's Most Focused

ELEMENTS TESTING

 ZRTLaboratory



MOST FOCUSED

Assess the four heavy metals considered most hazardous by the CDC, with a selection of nutritional elements that affect overall health



MOST CONVENIENT

Discreet dried urine collection eliminates the hassle of jug urine collection & dried blood spot collection eliminates a trip to the phlebotomist



MOST MEANINGFUL REPORT

ZRT's test report includes levels and personalized comments that provide insight into a patient's individual condition

Why test elements?

Environmental pollutants are all around us – in the air we breathe, in the water we drink, in the food we eat and in materials we touch.

These pollutants can significantly increase our risk of developing conditions like dementia, infertility, diabetes and cancer. They are also known to cause damage to the liver, kidneys and brain, as well as the cardiovascular, nervous and endocrine systems.

In excess, and when persistent, they can affect the synthesis and actions of hormones essential for managing our general health.

One gland profoundly affected by pollutants is the thyroid.

Thyroid health can be undermined by nutritional deficiencies, particularly of iodine and selenium, or overexposure to bromine, arsenic, cadmium and mercury. It's important to measure thyroid markers like TSH, FT3, FT4 and TPO, as well as these elements, when assessing the health of a patient whom you suspect has impaired thyroid function.

Essential elements, overall, are only healthy when they are within optimal ranges. Levels too low or too high can have detrimental effects on health. Therefore, it's important to know if essential or toxic elements are outside their optimal ranges.

Testing a panel like the Comprehensive Elements Profile offers the top four most toxic heavy metals and reveals levels of the nutritional elements iodine, selenium, zinc, copper and magnesium.

Patients who benefit from elements testing include those who:



Smoke



Are exposed to heavy metals through hobbies, work or dentistry



Live in older homes or areas where metals may be present in drinking water



Have thyroid-related health issues



Present with health issues that could result from nutritional deficiencies or imbalances in essential elements

“Essential elements, are only healthy when they are within optimal ranges.”



Lead 82 Pb 207.2	Mercury 80 Hg 200.59
Cadmium 48 Cd 112.414	Arsenic 33 As 74.922

Dangerous in high levels

Iodine 53 I 126.90	Selenium 34 Se 78.96
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Problematic in deficiency or excess

Iodine 53 I 126.90	Bromine 35 Br 79.904
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Compete with each other in thyroid function

Zinc 30 Zn 65.39	Copper 29 Cu 63.546
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Toxic at high levels

Heavy Metals

Arsenic, mercury, cadmium and lead are the four most toxic heavy metals, according to the CDC. High levels lead to an increase in Reactive Oxygen Species (ROS) that damage proteins, lipids and DNA. They also form tight bonds with the essential element selenium, reducing its bioavailability for enzymes essential for thyroid hormone synthesis and activation.

Did you know?

Lead is readily taken up by red blood cells where it forms a tight complex with hemoglobin. Whole blood is used to monitor lead exposure because it reveals intracellular levels. Arsenic is rapidly cleared from the bloodstream after exposure, so it's best to measure levels in urine.

Nutritional Elements

Iodine and selenium can be beneficial or toxic, depending on their levels. Deficiency or excess can cause thyroid dysfunction and goiter. Bromine is in the same chemical family as iodine and excessive amounts will compete with iodine in the thyroid – becoming particularly problematic when iodine levels are low and bromine is high. Copper and zinc are essential micronutrients needed in small quantities, and become toxic at higher levels.

Did you know?

ZRT uses whole blood to measure magnesium because it represents the intracellular magnesium level.

Magnesium 12
Mg
24.305

KEY DISTINCTIONS & CLINICAL UTILITY

MOST FOCUSED ASSESSMENT

Each test included in ZRT's element panels has been selected for its value in providing clinical insight. The complete profile reveals exposure to the four heavy metals labeled most hazardous by the CDC, while the thyroid profile highlights the toxic and nutritional elements that play a critical role in thyroid function.

TESTING DONE RIGHT

Toxic and nutritional elements affect different systems of the body, so it makes sense that they can't all be measured using the same method. ZRT tests using the most scientifically accurate method – either urine or whole blood – for our Elements profiles.

RESULTS WITH MEANING

ZRT is the only lab to offer customized comments on every report – correlating levels and symptoms to deliver real understanding. These comments highlight the role various elements play in health, and how deficiencies and excesses can lead to system dysfunction.

 YOUR LAB *of* CHOICE

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Free, helpful ZRT Webinars on Elements at:
www.zrtlab.com/webinar-resources