

Elemental Analysis, Packed Erythrocytes

Elemental Analysis, Packed Erythrocytes provides a reliable means of identifying short-term toxic element exposure and evaluating intracellular mineral nutrient status. Results help the clinician to quickly pinpoint imbalances underlying conditions such as chronic fatigue, depression, ADHD, and cardiovascular disease.

The vast majority of chemical reactions governing cellular processes are, in turn, regulated by enzymatic reactions. Enzymes usually require mineral cofactors such as magnesium and zinc to operate. Toxic elements, on the other hand, can interfere with enzymatic reactions and disrupt cellular activities. Thus, **both element insufficiencies and excesses have a significant impact on health.**

Nutrient Element Insufficiency

Unfortunately, nutrient element insufficiencies are pandemic in our society, leading to a variety of health problems. These include:

- Zinc deficiency, which can result in stunted growth, poor wound healing, infertility, depressed immunity, and increased occurrence of teratogenicity
- Magnesium deficiency, which contributes to fatigue, depression, osteoporosis, hypertension, and a host of other disorders
- Low levels of selenium which are associated with lung and breast cancers

Clearly, accurate assessment of mineral levels is critical to evaluate the causes and contributing factors of illness.

Advantages of Packed Erythrocyte Testing

Levels of nutrient elements in the serum are homeostatically controlled via metabolic, reabsorptive, and excretory mechanisms. Therefore, serum measurement of elements can only reveal extreme deficiencies. Analysis of packed erythrocytes, in contrast, provides a more accurate window into the intracellular status of most minerals.

Elemental Analysis, Packed Erythrocytes provides information regarding:

- Current or recent exposure to toxic elements (hours to weeks) largely independent of tissue stores. For assessment of long-term tissue deposition, a "post-provocation" urine specimen is preferred
- Levels of six toxic elements and six nutrient elements

Results from this test enable the clinician to design a customized treatment program for the patient geared toward elimination of current toxic exposure or replenishment of critical minerals.

•Analytes:

- 7 Toxic Elements:

antimony
arsenic
cadmium
lead
mercury
thallium
tin

- 8 Nutritional Elements:

chromium
copper
magnesium
manganese
potassium
selenium
vanadium
zinc

•Specimen requirements:

2 ml packed red blood cells

•Before Patient Takes this Test:

- Avoid all non-essential medications and supplements (for 4 days)
- Fast overnight (12 hours) before blood draw
- Corticosteroids may influence test results
- See instructions inside test kit for details



**Genova
Diagnostics®**

Improving Healthcare for Chronic Disease



ONE-PAGE TEST DESCRIPTION

Elemental Analysis (Packed Erythrocytes)



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Asheville, NC 28801
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Patient: **SAMPLE
PATIENT**

Age: 75
Sex: M
MRN:

Order Number:

Completed: February 25, 2008
Received: February 21, 2008
Collected: February 20, 2008

Toxic Elements

Element	Reference Range	Reference Range
Lead	0.050	<= 0.048 mcg/g
Mercury	0.0115	<= 0.0039 mcg/g
Antimony	0.001	<= 0.002 mcg/g
Arsenic	0.004	<= 0.029 mcg/g
Cadmium	0.001	<= 0.001 mcg/g
Thallium	<dl	<= 0.0000600 mcg/g
Tin	0.0017	<= 0.0009 mcg/g

Nutrient Elements

Element	Reference Range	Reference Range
Chromium	0.040	0.002-0.062 mcg/g
Copper	0.643	0.509-0.776 mcg/g
Magnesium	48.9	30.1-56.5 mcg/g
Manganese	0.013	0.007-0.038 mcg/g
Potassium	2,636	2,220-3,626 mcg/g
Selenium	0.53	0.25-0.76 mcg/g
Vanadium	0.007	0.001-0.014 mcg/g
Zinc	10.8	7.8-13.1 mcg/g

Commentary

This test has been developed and its performance characteristics determined by Genova Diagnostics, Inc. It has not been cleared or approved by the U.S. Food and Drug Administration.

Commentary is provided to the practitioner for educational purposes, and should not be interpreted as diagnostic or treatment recommendations. Diagnosis and treatment decisions are the responsibility of the practitioner.

This test reveals important clinical information about:

- **Intracellular imbalances** of nutrient elements contributing to fatigue, depression, insomnia, osteoporosis, hypertension, heart disease, stunted growth, poor wound healing, infertility, toxic stress, and many other conditions
- **Current or recent exposure** to toxic elements linked to neurological damage, mood shifts, behavior or learning disorders, chronic pain, and skin problems
- **Element imbalances** promoting increased risk of carcinogenesis, disrupted enzyme metabolism, and dysfunction of the gastrointestinal, respiratory, cardiovascular and urological systems

For test kits, clinical support, or more information contact:

Client Services
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More detailed publications with references are also available: www.GDX.net