
HAIR ELEMENTS REPORT
INTRODUCTION

Hair is an excretory tissue for potentially toxic elements and essential and nonessential elements. In general, the amount of an element that is irreversibly incorporated into growing hair is proportional to the level of the element in other body tissues. Therefore, the Hair Toxic Element Profile provides an indirect screening test for physiological excess of elements in the body. Clinical research indicates that hair levels of specific elements, particularly potentially toxic elements such as cadmium, mercury, lead and arsenic, are highly correlated with pathological disorders. For such elements, levels in hair may be more indicative of body stores than the levels in blood and urine.

All screening tests have limitations that must be taken into consideration. The correlation between hair element levels and physiological disorders is determined by numerous factors. Individual variability and compensatory mechanisms are major factors that affect the relationship between the distribution of elements in hair and symptoms and pathological conditions. It is also very important to keep in mind that scalp hair is vulnerable to external contamination of elements by exposure to hair treatments and products. Likewise, some hair treatments (e.g. permanent solutions, dyes, and bleach) can strip hair of endogenously acquired elements and result in false low values. Careful consideration of the limitations must be made in the interpretation of results of hair analysis. The data provided should be considered in conjunction with symptomology, occupation, diet analysis and lifestyle, physical examination and the results of other analytical laboratory tests.

Caution: The contents of this report are not intended to be diagnostic and the physician using this information is cautioned against treatment based solely on the results of this screening test.

HAIR TOXIC ELEMENT EXPOSURE PROFILE



LAB#: H041018-0046-1
 PATIENT: Anna
 SEX: Female
 AGE: 52

CLIENT#: 28112
 DOCTOR: Brian Popiel, ND

9525 E Doubletree Ranch Rd #104
 Scottsdale, AZ 85258

POTENTIALLY TOXIC ELEMENTS

| TOXIC ELEMENTS | RESULT µg/g | REFERENCE RANGE | PERCENTILE | |
|----------------|----------------|-----------------|------------------|------------------|
| | | | 68 th | 95 th |
| Arsenic | 0.037 | < 0.14 | | |
| Lead | 0.11 | < 4.0 | | |
| Mercury | 0.46 | < 3.0 | | |
| Cadmium | 0.051 | < 0.50 | | |
| Chromium | 0.25 | < 0.70 | | |
| Beryllium | < 0.01 | < 0.050 | | |
| Cobalt | 0.006 | < 0.15 | | |
| Nickel | 0.03 | < 1.0 | | |
| Zinc | 200 | < 300 | | |
| Copper | 11 | < 65 | | |
| Thorium | < 0.001 | < 0.010 | | |
| Thallium | < 0.001 | < 0.020 | | |
| Barium | 0.10 | < 8.0 | | |
| Cesium | < 0.002 | < 0.010 | | |
| Manganese | 0.13 | < 1.5 | | |
| Selenium | 0.84 | < 2.7 | | |
| Bismuth | 0.002 | < 0.35 | | |
| Vanadium | 0.070 | < 0.20 | | |
| Silver | 0.10 | < 0.90 | | |
| Antimony | < 0.01 | < 0.12 | | |
| Palladium | < 0.004 | < 0.010 | | |
| Aluminum | 2.0 | < 19 | | |
| Platinum | < 0.003 | < 0.010 | | |
| Tungsten | < 0.01 | < 0.020 | | |
| Tin | 0.06 | < 0.80 | | |
| Uranium | 0.006 | < 0.20 | | |
| Gold | 0.08 | < 0.40 | | |
| Tellurium | < 0.05 | < 0.050 | | |
| Germanium | 0.038 | < 0.085 | | |
| Titanium | 0.43 | < 2.0 | | |
| Gadolinium | < 0.001 | < 0.008 | | |

SPECIMEN DATA

Comments:

Date Collected: 10/14/2004
 Date Received: 10/18/2004
 Date Completed: 10/21/2004

Methodology: ICP-MS
 µg/g = ppm
 Sample Size: 0.203 g

Sample Type: Head
 Hair Color: Brown
 Treatment:
 Shampoo: Aubry

Metals are listed in descending priority order based upon data from the Agency for Toxic Substances and Disease Registry, which considers not only the relative toxicity per gram metal, but also the frequency for occurrence of exposure.