

# HAIR ELEMENTS



**PATIENT: Number 161**  
**SEX: Female**  
**AGE: 49**  
**Location: Kingston, Ontario, Canada**

## POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	5.5	< 7.0		
Antimony	0.025	< 0.050		
Arsenic	0.051	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.19	< 2.0		
Cadmium	0.048	< 0.10		
Lead	0.57	< 1.0		
Mercury	0.48	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.037	< 0.060		
Nickel	0.11	< 0.40		
Silver	0.48	< 0.15		
Tin	0.26	< 0.30		
Titanium	0.50	< 1.0		
Total Toxic Representation				

## ESSENTIAL AND OTHER ELEMENTS

ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE				
			2.5 <sup>th</sup>	16 <sup>th</sup>	50 <sup>th</sup>	84 <sup>th</sup>	97.5 <sup>th</sup>
Calcium	531	300- 1200					
Magnesium	34	35- 120					
Sodium	27	12- 90					
Potassium	17	8- 38					
Copper	19	12- 35					
Zinc	180	140- 220					
Manganese	0.06	0.15- 0.65					
Chromium	0.38	0.20- 0.40					
Vanadium	0.026	0.018- 0.065					
Molybdenum	0.026	0.028- 0.056					
Boron	0.25	0.30- 2.0					
Iodine	0.36	0.25- 1.3					
Lithium	< 0.004	0.007- 0.023					
Phosphorus	153	160- 250					
Selenium	0.84	0.95- 1.7					
Strontium	1.3	0.50- 7.6					
Sulfur	46700	44500- 52000					
Barium	0.39	0.26- 3.0					
Cobalt	0.035	0.013- 0.050					
Iron	14	5.4- 14					
Germanium	0.032	0.045- 0.065					
Rubidium	0.013	0.007- 0.096					
Zirconium	0.15	0.020- 0.42					

### SPECIMEN DATA

**COMMENTS:**  
 Date Collected: 3/27/2008      Sample Size: 0.198 g  
 Date Received: 3/31/2008      Sample Type: Head  
 Date Completed: 4/5/2008      Hair Color:  
    Treatment:  
 Methodology: ICP-MS              Shampoo: Organic

### RATIOS

ELEMENTS	RATIOS	EXPECTED RANGE
Ca/Mg	15.6	4- 30
Ca/P	3.47	1- 12
Na/K	1.59	0.5- 10
Zn/Cu	9.47	4- 20
Zn/Cd	> 999	> 800

- 9 years in nursing, so lots of routine immunizations
- travelling in the past, so recommended immunizations
- flu shot each year till 2007 (for 5-6 years)

- lots and lots of supplementation with minerals and vitamins for 1 year plus.

Health issues: fibromyalgia diagnosis, back pain, post traumatic stress disorder & addiction

- 4 amalgam fillings placed at ages 20, and 30s; amalgam removed in 2007 & replaced with composite fillings.