

# HAIR ELEMENTS



**PATIENT: Number 228**  
**SEX: Male**  
**AGE: 10**  
**LOCATION: North Essex, United Kingdom**

## POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	15	< 8.0		
Antimony	0.042	< 0.066		
Arsenic	0.065	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.006	< 2.0		
Cadmium	0.029	< 0.15		
Lead	0.90	< 1.0		
Mercury	0.44	< 0.40		
Platinum	0.005	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.001	< 0.060		
Nickel	0.07	< 0.40		
Silver	0.05	< 0.13		
Tin	0.12	< 0.30		
Titanium	0.63	< 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	264	160- 500					
Magnesium	15	12- 50					
Sodium	120	12- 90					
Potassium	190	10- 40					
Copper	11	9.0- 30					
Zinc	150	110- 190					
Manganese	0.13	0.18- 0.60					
Chromium	0.34	0.23- 0.50					
Vanadium	0.050	0.025- 0.10					
Molybdenum	0.047	0.040- 0.089					
Boron	3.5	0.50- 3.5					
Iodine	0.29	0.25- 1.3					
Lithium	0.008	0.007- 0.023					
Phosphorus	217	160- 250					
Selenium	0.69	0.95- 1.7					
Strontium	1.5	0.21- 2.1					
Sulfur	51900	45500- 53000					
Barium	0.14	0.19- 1.6					
Cobalt	0.008	0.013- 0.035					
Iron	12	6.0- 17					
Germanium	0.028	0.045- 0.065					
Rubidium	0.14	0.008- 0.080					
Zirconium	0.051	0.060- 0.70					

### SPECIMEN DATA

### RATIOS

<b>COMMENTS:</b>			<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected: 11/13/2008	Sample Size: 0.203 g		Ca/Mg	17.6	4- 30
Date Received: 11/17/2008	Sample Type: Head		Ca/P	1.22	0.8- 8
Date Completed: 11/19/2008	Hair Color: Brown		Na/K	0.632	0.5- 10
	Treatment:		Zn/Cu	13.6	4- 20
Methodology: ICP-MS	Shampoo: Jason Kids Only		Zn/Cd	> 999	> 800

## **Health history for hair test 228**

First child, mother had threatened miscarriage at 5 weeks. Remainder of pregnancy and birth was normal. Late to talk although other developmental milestones normal. Non verbal communication good and made up own sign language. Diagnosed with verbal dyspraxia (apraxia) at age 3. Difficulty learning to read, assessment showed dyslexia and high functioning autistic traits. Assessed by Behavioural Optometrist at age 5 years, eye tracking and focusing problems identified. Eye exercises given to perform at home, reading improved. Discharged by Behavioural Optometrist at age 8. Diagnosed with asthma at age 5 and eczema since baby but both have decreased over time. At age 3 hair at back of head in "bird's nest", fish oil resolved this.

Current problems. Difficulty with short term memory, concentration, slow to organise thoughts and ideas when writing, this is becoming a problem at school. Very easily distracted. Emotionally immature. Feels cold easily and slow to warm. Melancholic child. Difficulty interpreting social situations and making friends. Much happier in adult company rather than with peers. Exercises regularly and looks forward to it but frequently bad tempered/unhappy by the end.

2.No dental work. Live in an area of naturally high fluoride in the water.

4. Mother had 8 amalgams prior to pregnancy. No treatment during pregnancy.

5. Normal childhood vaccinations given. Diphtheria, Tetanus, Whooping Cough, Hib, Polio, MMR and Meningitis C at normal routine ages. Due to an allergic reaction after the first MMR vaccination the second MMR was not given.

6. No supplements or medications.

7. EyeQ fish oil supplement given between ages 4 and 9 years. Initially 15mls per day for 3 months and then 10mls per day.

8. Location, North Essex, United Kingdom.