



PATIENT: Number 832
 SEX: Male
 AGE: 3

Toxic & Essential Elements; Hair

TOXIC METALS			
	RESULT µg/g	REFERENCE INTERVAL	PERCENTILE 68 th 95 th
Aluminum (Al)	5.2	< 8.0	
Antimony (Sb)	0.58	< 0.066	
Arsenic (As)	0.082	< 0.080	
Barium (Ba)	0.43	< 0.50	
Beryllium (Be)	< 0.01	< 0.020	
Bismuth (Bi)	0.50	< 2.0	
Cadmium (Cd)	0.10	< 0.070	
Lead (Pb)	1.1	< 1.0	
Mercury (Hg)	0.72	< 0.40	
Platinum (Pt)	< 0.003	< 0.005	
Thallium (Tl)	< 0.001	< 0.002	
Thorium (Th)	< 0.001	< 0.002	
Uranium (U)	0.006	< 0.060	
Nickel (Ni)	0.10	< 0.20	
Silver (Ag)	0.12	< 0.20	
Tin (Sn)	0.28	< 0.30	
Titanium (Ti)	0.75	< 1.0	
Total Toxic Representation			

ESSENTIAL AND OTHER ELEMENTS					
	RESULT µg/g	REFERENCE INTERVAL	PERCENTILE 2.5 th 16 th 50 th 84 th 97.5 th		
Calcium (Ca)	226	125- 370			
Magnesium (Mg)	110	12- 30			
Sodium (Na)	47	20- 200			
Potassium (K)	17	12- 200			
Copper (Cu)	27	11- 18			
Zinc (Zn)	87	100- 190			
Manganese (Mn)	0.18	0.10- 0.50			
Chromium (Cr)	0.41	0.43- 0.80			
Vanadium (V)	0.056	0.030- 0.10			
Molybdenum (Mo)	0.033	0.050- 0.13			
Boron (B)	1.8	0.70- 5.0			
Iodine (I)	2.0	0.25- 1.3			
Lithium (Li)	0.012	0.007- 0.020			
Phosphorus (P)	169	150- 220			
Selenium (Se)	0.74	0.70- 1.1			
Strontium (Sr)	0.43	0.16- 1.0			
Sulfur (S)	51800	45500- 53000			
Cobalt (Co)	0.039	0.004- 0.020			
Iron (Fe)	8.1	7.0- 16			
Germanium (Ge)	0.026	0.030- 0.040			
Rubidium (Rb)	0.020	0.016- 0.18			
Zirconium (Zr)	0.66	0.040- 1.0			

SPECIMEN DATA		RATIOS		
COMMENTS:		ELEMENTS	RATIOS	RANGE
Date Collected: 08/01/2013	Sample Size: 0.199 g	Ca/Mg	2.05	4- 30
Date Received: 08/05/2013	Sample Type: Head	Ca/P	1.34	0.8- 8
Date Completed: 08/07/2013	Hair Color: Brown	Na/K	2.76	0.5- 10
Methodology: ICP/MS	Treatment:	Zn/Cu	3.22	4- 20
	Shampoo: Burts Bees	Zn/Cd	870	> 800

Health history for hair test 832

1. borderline ASD, expressive language delay, problems with engagement, gross motor delay, imaginative play delay
2. None
3. None
4. Tooth removal and frenectomy, age 9. Braces, age 10-14. Permanent retainer, age 14-present. Wisdom teeth removed, age 22.
5. Vaccinations up to date, flu shots each year.
6. Vitamin D (8,000 mg), epsom salt baths (2x week), occasional zinc (30 mg)
7. Age 3, 36" tall, 28 lbs
8. Febrile seizure at 9 mos; when mother was 6 mos pregnant, wood floors glued down in house (lots of fumes)
9. Born and lived in Dallas 4 mos, current Westchester County, NY.