



PATIENT: Number 898  
 SEX: Male  
 AGE: 55

**Toxic & Essential Elements; Hair**

TOXIC METALS			
	RESULT µg/g	REFERENCE INTERVAL	PERCENTILE 68 <sup>th</sup> 95 <sup>th</sup>
Aluminum (Al)	4.1	< 7.0	
Antimony (Sb)	0.019	< 0.066	
Arsenic (As)	0.034	< 0.080	
Barium (Ba)	0.28	< 1.0	
Beryllium (Be)	< 0.01	< 0.020	
Bismuth (Bi)	0.018	< 2.0	
Cadmium (Cd)	0.016	< 0.065	
Lead (Pb)	0.23	< 0.80	
Mercury (Hg)	0.80	< 0.80	
Platinum (Pt)	< 0.003	< 0.005	
Thallium (Tl)	< 0.001	< 0.002	
Thorium (Th)	< 0.001	< 0.002	
Uranium (U)	0.045	< 0.060	
Nickel (Ni)	0.13	< 0.20	
Silver (Ag)	0.13	< 0.08	
Tin (Sn)	0.13	< 0.30	
Titanium (Ti)	0.24	< 0.60	
Total Toxic Representation			

ESSENTIAL AND OTHER ELEMENTS					
	RESULT µg/g	REFERENCE INTERVAL	PERCENTILE 2.5 <sup>th</sup> 16 <sup>th</sup> 50 <sup>th</sup> 84 <sup>th</sup> 97.5 <sup>th</sup>		
Calcium (Ca)	293	200- 750			
Magnesium (Mg)	16	25- 75			
Sodium (Na)	16	20- 180			
Potassium (K)	11	9- 80			
Copper (Cu)	14	11- 30			
Zinc (Zn)	140	130- 200			
Manganese (Mn)	0.05	0.08- 0.50			
Chromium (Cr)	0.43	0.40- 0.70			
Vanadium (V)	0.038	0.018- 0.065			
Molybdenum (Mo)	0.030	0.025- 0.060			
Boron (B)	0.86	0.40- 3.0			
Iodine (I)	0.69	0.25- 1.8			
Lithium (Li)	< 0.004	0.007- 0.020			
Phosphorus (P)	142	150- 220			
Selenium (Se)	0.79	0.70- 1.2			
Strontium (Sr)	0.21	0.30- 3.5			
Sulfur (S)	48100	44000- 50000			
Cobalt (Co)	0.006	0.004- 0.020			
Iron (Fe)	6.6	7.0- 16			
Germanium (Ge)	0.029	0.030- 0.040			
Rubidium (Rb)	0.015	0.011- 0.12			
Zirconium (Zr)	0.26	0.020- 0.44			

SPECIMEN DATA		RATIOS	
<b>COMMENTS:</b>		ELEMENTS	RATIOS
Date Collected: 12/14/2013	Sample Size: 0.205 g	Ca/Mg	18.3
Date Received: 12/20/2013	Sample Type: Head	Ca/P	2.06
Date Completed: 12/22/2013	Hair Color: Brown	Na/K	1.45
Methodology: ICP/MS	Treatment:	Zn/Cu	10
	Shampoo: Dove	Zn/Cd	> 999
		RANGE	
			4- 30
			0.8- 8
			0.5- 10
			4- 20
			> 800



PATIENT: Number 898  
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*Mercury; Urine*

MERCURY PER CREATININE				
	RESULT µg/g creat	REFERENCE INTERVAL	WITHIN REFERENCE	
			OUTSIDE REFERENCE	
Mercury (Hg)	22	< 3		

URINE CREATININE					
	RESULT mg/dL	REFERENCE INTERVAL	-2SD -1SD MEAN +1SD +2SD		
Creatinine	212	45- 225			

**INFORMATION**

Toxic metals are reported as µg/g creatinine to account for urine dilution variations. Reference ranges are representative of a healthy population under non-challenge or non-provoked conditions. No safe reference levels for toxic metals have been established.

This individual's urine mercury equals or exceeds twice the maximum expected level. Presentation of symptoms associated with excessive mercury can depend on many factors: the chemical form of absorbed Hg and its transport in body tissues, presence of other synergistic toxics (Pb, Cd have such effects), presence of disease that depletes or inactivates lymphocytes or is immunosuppressive, organ levels of xenobiotic chemicals and sulfhydryl-bearing metabo-lites (e.g. glutathione), and the concentration of protective nutrients, (e.g. zinc, selenium, vitamin E). Early signs of mercury contamination include: decreased senses of touch, hearing, vision and taste, metallic taste in mouth, fatigue or lack of physical endurance, and increased salivation. Symptoms may progress with moderate or chronic exposure to include: anorexia, numbness and paresthesias, headaches, hypertension, irritability and excitability, and immune suppression, possibly immune dysregulation. Advanced disease processes from mercury toxicity include: tremors and incoordination, anemia, psychoses, manic behaviors, possibly autoimmune disorders, renal dysfunction or failure. Mercury is commonly used in: dental amalgams, explosive detonators; in pure liquid form for thermometers, barometers, and laboratory equipment; batteries and electrodes (calomel); and in fungicides and pesticides. The fungicide/pesticide use of mercury has declined due to environmental concerns, but mercury residues persist from past use. Methylmercury, the common, poisonous form, occurs by methylation in aquatic biota or sediments (both freshwater) and ocean sediments). Methylmercury accumulates in aquatic animals and fish and is concentrated up the food chain reaching high concentrations in large fish and predatory birds. Except for fish, the human intake of dietary mercury is negligible unless the food is contaminated with one of the previously listed forms/sources. A daily diet of fish can cause 1 to 10 micrograms of mercury/day to be ingested, with about 75% of this (typically) as methylmercury. Depending upon body burden and upon type, duration and dosage of detoxifying agents, elevated urine hg may occur after administration of: DMPS, DMSA, D-penicillamine, or EDTA. Elemental analysis of hair can be a corroborating test for hg burden. Blood analyses are only useful for diagnosing very recent/ongoing organic (methyl) mercury exposure.

**SPECIMEN DATA**

Comments:	BILLING@KERRYEMERY.COM		
Date Collected:	11/26/2013	pH upon receipt:	elemph
Date Received:	11/29/2013	<dI:	less than detection limit
Date Completed:	11/30/2013	Provoking Agent:	DMPs
Method:	ICP-MS	Provocation:	POST PROVOCATIVE
		Collection Period:	timed: 3 hours
		Volume:	
		Collection Method:	Creatinine by Jaffe Method

Results are creatinine corrected to account for urine dilution variations. **Reference intervals and corresponding graphs are representative of a healthy population under non-provoked conditions.** Chelation (provocation) agents can increase urinary excretion of metals/elements.

V13

## **Health history for hair test 898**

### **1) What are your current symptoms and health history?**

General health: 55yrs old - fairly good health but overweight - 6'5" @ 260lbs. Sensitivity on feet and fingers to numbness and crappy memory. High blood pressure and having a hard time losing weight - eat fairly well. Salads, fish, some meat, no wheat, primarily organic etc...some sugar (try to keep to a minimum), one bottle of red wine a week. Hair and nails grow like weeds. Skin is starting to get issues - flaking or dryness and minor lesions sometimes. Always had a lot of moles - no bad ones yet. Sex drive very low. Exercise at least three or four times a week (swimming, light weights, rowing, bicycle etc..)Extra weight around middle - not so much legs or arms.

### **2) Dental history (wisdom teeth removed? First root canal placed?**

etc...) Amalgams done early in 1976 - many of them! Crappy teeth overall. Looks ok from front - but deceiving. Lost track of root canals done. maybe 8 ....guessing. Can find out.

### **3) What dental work do you currently have in place? What part of the dental cleanup have you**

**completed?** Four teeth removed recently (a lot of amalgams) two back wisdom - two side top. Still have two caps with amalgam underneath(I Think?) and three more teeth with amalgams - working on getting those fixed in next few months.

**4) What dentistry did your mother have at any time before or during pregnancy?** No idea. Dentures i think from early years.

**5) What vaccinations have you had and when (including flu and especially travel shots)?** Non in last ten+ years

**6) Supplements and medications (including dosages) taken at time of hair test, or for the 3-6 months before the sample was taken.** Medications once daily in AM: Amlodipine Besylate 10 mg tab, Metro prolog Tartrate 50 mg tab, Caroline-Levothyroxine 50mcg tab

**7) Other information you feel may be relevant?** Memory is crappy ...didn't used to be. And eyes are going ...worse vision about four years ago (may be older age?) and recently 'floaters' and trouble in left eye from blurring. (My space suit is falling apart!)

**8) What is your location?** Charlotte, NC 28210