

HAIR ELEMENTS



PATIENT: Number 317
SEX: Female
AGE: 60
LOCATION: San Francisco Bay, USA

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	2.3	< 7.0		
Antimony	0.019	< 0.050		
Arsenic	0.028	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.013	< 2.0		
Cadmium	0.063	< 0.10		
Lead	0.12	< 1.0		
Mercury	0.86	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.025	< 0.060		
Nickel	0.09	< 0.40		
Silver	0.02	< 0.15		
Tin	0.09	< 0.30		
Titanium	0.43	< 1.0		
Total Toxic Representation				

ESSENTIAL AND OTHER ELEMENTS							
ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE				
			2.5 th	16 th	50 th	84 th	97.5 th
Calcium	572	300- 1200					
Magnesium	74	35- 120					
Sodium	12	12- 90					
Potassium	9	8- 38					
Copper	11	12- 35					
Zinc	180	140- 220					
Manganese	0.11	0.15- 0.65					
Chromium	0.46	0.20- 0.40					
Vanadium	0.040	0.018- 0.065					
Molybdenum	0.033	0.028- 0.056					
Boron	0.34	0.30- 2.0					
Iodine	9.5	0.25- 1.3					
Lithium	< 0.004	0.007- 0.023					
Phosphorus	159	160- 250					
Selenium	1.0	0.95- 1.7					
Strontium	3.4	0.50- 7.6					
Sulfur	49100	44500- 52000					
Barium	1.1	0.26- 3.0					
Cobalt	0.047	0.013- 0.050					
Iron	12	5.4- 14					
Germanium	0.036	0.045- 0.065					
Rubidium	0.006	0.007- 0.096					
Zirconium	0.20	0.020- 0.42					

SPECIMEN DATA			RATIOS		
COMMENTS:			ELEMENTS	RATIOS	EXPECTED RANGE
Date Collected:	Sample Size:	0.198 g	Ca/Mg	7.73	4- 30
Date Received: 3/7/2008	Sample Type:	Head	Ca/P	3.6	1- 12
Date Completed: 3/12/2008	Hair Color:		Na/K	1.33	0.5- 10
	Treatment:		Zn/Cu	16.4	4- 20
Methodology: ICP-MS	Shampoo:		Zn/Cd	> 999	> 800
		V06.99			

FECAL METALS



PATIENT: Number 317
SEX: Female
AGE: 61

POTENTIALLY TOXIC METALS

METALS	RESULT mg/kg	REFERENCE RANGE	PERCENTILE		
			68 th	95 th	
Mercury	0.379	<.05 w/o amalgams*	[Bar chart showing result at 68th percentile]		
Mercury	0.379	<.5 with amalgams*	[Bar chart showing result at 68th percentile]		
Antimony	0.035	< 0.080	[Bar chart showing result at 68th percentile]		
Arsenic	0.28	< 0.30	[Bar chart showing result at 68th percentile]		
Beryllium	0.011	< 0.009	[Bar chart showing result at 68th percentile]		
Bismuth	0.030	< 0.050	[Bar chart showing result at 68th percentile]		
Cadmium	0.67	< 0.50	[Bar chart showing result at 68th percentile]		
Copper	40	< 60	[Bar chart showing result at 68th percentile]		
Lead	2.15	< 0.50	[Bar chart showing result at 68th percentile]		
Nickel	10.2	< 8.0	[Bar chart showing result at 68th percentile]		
Platinum	0.023	< 0.003	[Bar chart showing result at 68th percentile]		
Thallium	0.016	< 0.020	[Bar chart showing result at 68th percentile]		
Tungsten	0.063	< 0.090	[Bar chart showing result at 68th percentile]		
Uranium	0.237	< 0.120	[Bar chart showing result at 68th percentile]		

% WATER CONTENT

	RESULT % H ₂ O	EXPECTED RANGE	MEAN			
			2SD LOW	1SD LOW	72.5%	1SD HIGH
% WATER CONTENT	78.3	60-85%	[Bar chart showing result at 72.5th percentile]			

DISCUSSION

Analysis of elements in feces provides a comprehensive evaluation of environmental exposure, accumulation and endogenous detoxification of potentially toxic metals. For several toxic elements such as mercury, cadmium, lead, antimony and uranium, biliary excretion of metals into feces is the primary natural route of elimination from the body. Studies performed at DDI demonstrate that the fecal mercury content and number of amalgam surfaces are highly correlated, as is the case for post-DMPS urine mercury levels and amalgam surface area.

Results are reported as mg/kg dry weight of feces to eliminate the influence of variability in water content of fecal specimens. The reference values that appear in this report have been derived from both published data and in-house studies at DDI. *Due to exposure to mercury in the oral cavity, people with dental amalgams typically have a considerably higher level of mercury in the feces than individuals without dental amalgams; therefore, two reference ranges have been established for mercury.

To provide guidance in interpretation of results, patient values are plotted graphically with respect to percentile distribution of the population base. Since this test reflects both biliary excretion and exposure (metals to which the patient is exposed may not be absorbed), it may not correlate with overt clinical effects. Further testing can assist in determining whether the metals are from endogenous (biliary excretion) or exogenous (oral exposure) sources.

1. Bjorkman, L, Sandborgh-Englund, G, and Ekstand, J. Mercury in Saliva and Feces after Removal of Amalgam Fillings. Toxicology & Applied Pharmacology 144: 156-162 (1997)
2. Zalups, R, Progressive Losses of Renal Mass and the Renal and Hepatic Disposition of Administered Inorganic Mercury. Toxicology & Applied Pharmacology 130: 121-131 (1995)
3. Adamsson, E., Piscator, M., and Nogawa, K., Pulmonary and Gastrointestinal Exposure to Cadmium Oxide Dust in a Battery Factory. Environmental Health Perspectives, 28: 219-222 (1979)
4. Smith, J., et al., The Kinetics of Intravenously Administered Methyl Mercury in Man. Toxicology & Applied Pharmacology 128:251-256 (1994)
5. Bass, D., et al., "Measurement of Mercury in Feces", Poster presentation 1999 AACC

SPECIMEN DATA

Comments:

Date Collected: 10/6/2008	Provocation:	Dental Amalgams: Yes
Date Received: 10/7/2008	Detoxification Agent:	Quantity:
Date Completed: 10/11/2008	Dosage:	Methodology: ICP-MS

v02.00

24 HOUR URINE TOXIC METALS



PATIENT: Number 317
SEX: Female
AGE:

POTENTIALLY TOXIC METALS

METALS	RESULT µg/g CREAT	REFERENCE RANGE	RESULT µg/24 HOUR	REFERENCE RANGE	WITHIN REF. RANGE			ELEVATED	VERY ELEVATED
					ELEVATED			ELEVATED	ELEVATED
Aluminum	68	< 35	74	< 30	[Bar]			[Bar]	[Bar]
Antimony	0.1	< 1	0.1	< 1	[Bar]			[Bar]	[Bar]
Arsenic	58	< 130	63	< 140	[Bar]			[Bar]	[Bar]
Beryllium	< dl	< 0.5	< dl	< 0.6	[Bar]			[Bar]	[Bar]
Bismuth	< dl	< 15	< dl	< 15	[Bar]			[Bar]	[Bar]
Cadmium	0.9	< 2	1	< 2	[Bar]			[Bar]	[Bar]
Lead	1.1	< 5	1.2	< 5	[Bar]			[Bar]	[Bar]
Mercury	2	< 4	2.2	< 5	[Bar]			[Bar]	[Bar]
Nickel	5.5	< 12	6	< 15	[Bar]			[Bar]	[Bar]
Platinum	< dl	< 1	< dl	< 1	[Bar]			[Bar]	[Bar]
Thallium	0.3	< 0.8	0.4	< 0.7	[Bar]			[Bar]	[Bar]
Thorium	< dl	< 0.3	< dl	< 0.3	[Bar]			[Bar]	[Bar]
Tin	0.9	< 10	1	< 9	[Bar]			[Bar]	[Bar]
Tungsten	0.6	< 1	0.6	< 0.9	[Bar]			[Bar]	[Bar]
Uranium	0.3	< 0.2	0.4	< 0.2	[Bar]			[Bar]	[Bar]

CREATININE

	RESULT mg/24 hr	REFERENCE RANGE	2SD LOW	1SD LOW	MEAN	1SD HIGH	2SD HIGH
Creatinine	1090	600- 1900	[Bar]	[Bar]	[Bar]	[Bar]	[Bar]

SPECIMEN DATA

Comments:
 Date Collected: 10/16/2008 Method: ICP-MS Collection Period: 24 Hr/Col1
 Date Received: 10/20/2008 <dl: less than detection limit Volume: 800 ml
 Date Completed: 11/4/2008 Provoking Agent: Provocation: PRE PROVOCATIVE

Toxic metals are reported as µg/g creatinine and µg/24 hour 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. V10.00

Health history for hair test 317

1. My current symptoms: short term memory issues (life-long), depression, fatigue, joint pains, food cravings. Also very poor balance life-long. I have been fairly healthy until about two years ago. (except for slow weight gain from 40 to 62, my current age), and intermittent depression and memory issues which I compensated for. I do fit the personality profile of being somewhat detached, apathetic and other characteristics Andy describes. When I was in my late teens I had fairly severe mood swings. My diet has been mediocre until about two years ago.

My health history includes one C-section and gall bladder removal, and mild hypertension now.

About 2-3 years ago I developed more fatigue and joint pain. I am a conventional MD but at this point became much more interested in integrative medicine and saw a several integrative practitioners. At this point I discovered gluten sensitivity, improved diet, and began lots of supplements with some improvement.

I had lots of amalgams (see below).

I did the hair analysis in early 2008 and was told that it looked OK, so had the basic plan of removing amalgams and ordinary supplements. I received conflicting advice, and started taking chlorella during the amalgam removal, as well as MSM. I also used Karack's oil supplements and homeopathic remedies. I did not have many symptoms during the removal. I also have been on hormonal support (thyroid, adrenal). I also heavily supplemented amino acids, maybe the wrong ones.

However, now it is about eight months after the amalgam removal and I am feeling more depressed, lethargic, and the initial mild memory improvement I had is gone. I started alpha-lipoic acid 300 mg daily, and discovered it was making me worse. I am concerned that I did not follow a good enough protocol initially, and need help now and to do it right!

I was not sure how to assess my level of mercury toxicity, since my hair analysis wasn't too bad. However, out of 24 physical and lab markers (in Andy's book) I had 10 abnormal. Some of these improved (temporarily) with supplements, but now I have regressed. I have mildly elevated AST/ALT since age 40, although it diminishes and sometimes goes away with better diet and liver herbs. My HDL was low initially; my white blood count has been low since age 25.

I need some guidance as to whether I am mercury poisoned and how much. I am sending off the porphyrin test to France in the next couple days. I also am going to do a blood spot amino acid test shortly.

2.. I basically had massive amalgam placement in childhood - age 5-8. I had many cavities and was taking to an inexpensive dentist in a rural midwestern town in the 1950's. I remember feeling awful after these trips. I was VERY spacy, could not concentrate, not really sociable as a child. My mother called it daydreaming. Yet somehow academically and intellectually I was OK despite this.

Memory was TERRIBLE. I remember being in Sunday School and not being able to grasp what was going on. Somehow, this improved by the time I got to first grade. Later in childhood I had a few more amalgams, and had wisdom teeth out in my 20's. No root canals. Some of the old amalgams broke down in the next couple decades and were replaced with various materials that I did not pay much attention to. One large amalgam was removed in late 2007 and replaced with a crown of a "high noble metal." At this point I had 11 amalgams in all four quadrants of my mouth, some large and replacing the whole tooth almost.

3. When I became aware and was really convinced that the amalgams might be a problem, I had the amalgams removed by a good IAOMT from August, 2008-February 2009. I also had the 2007 crown replaced. I believe I still have an amalgam tattoo surrounding one of the old amalgam sites. Mostly gold was used in the replacements.

4. I don't know much about my mother's dentistry, but suspect she had at least a few of the awful amalgams from the same dentist she took me to.

5.. I had a few childhood vaccinations in the 1950's, and travel vaccinations over 20 years ago. I had a Hep B series 5 years ago. I have never had a flu shot or other vaccine other than those mentioned. I am resisting the tremendous pressure to get the flu shots as a health care provider.

6. Supplements at the time of hair test 3/08: multivitamin, fish oil, "Travacor:" - 5HT, zinc, , B12, selenium, taurine, L-Theanine, "Adreacor" - Rhodiola, EGCG, ALph-GPC, Glutamine, Mg, Panthothenic acid.

7. -

8. I am in the San Francisco Bay area.