

Casual Friday Series

Assessment & Resolution: Heavy Metals

A Biogenetix Clinical Presentation

BIOGENETIX.COM



Disclaimer

- *Information in this presentation is not intended, in itself, to diagnose, treat, reverse, cure, or prevent any disease. While this presentation is based on medical literature, findings, and text, The following statements have not been evaluated by the FDA.*
- *The information provided in this presentation is for your consideration only as a practicing health care provider. Ultimately you are responsible for exercising professional judgment in the care of your own patients.*

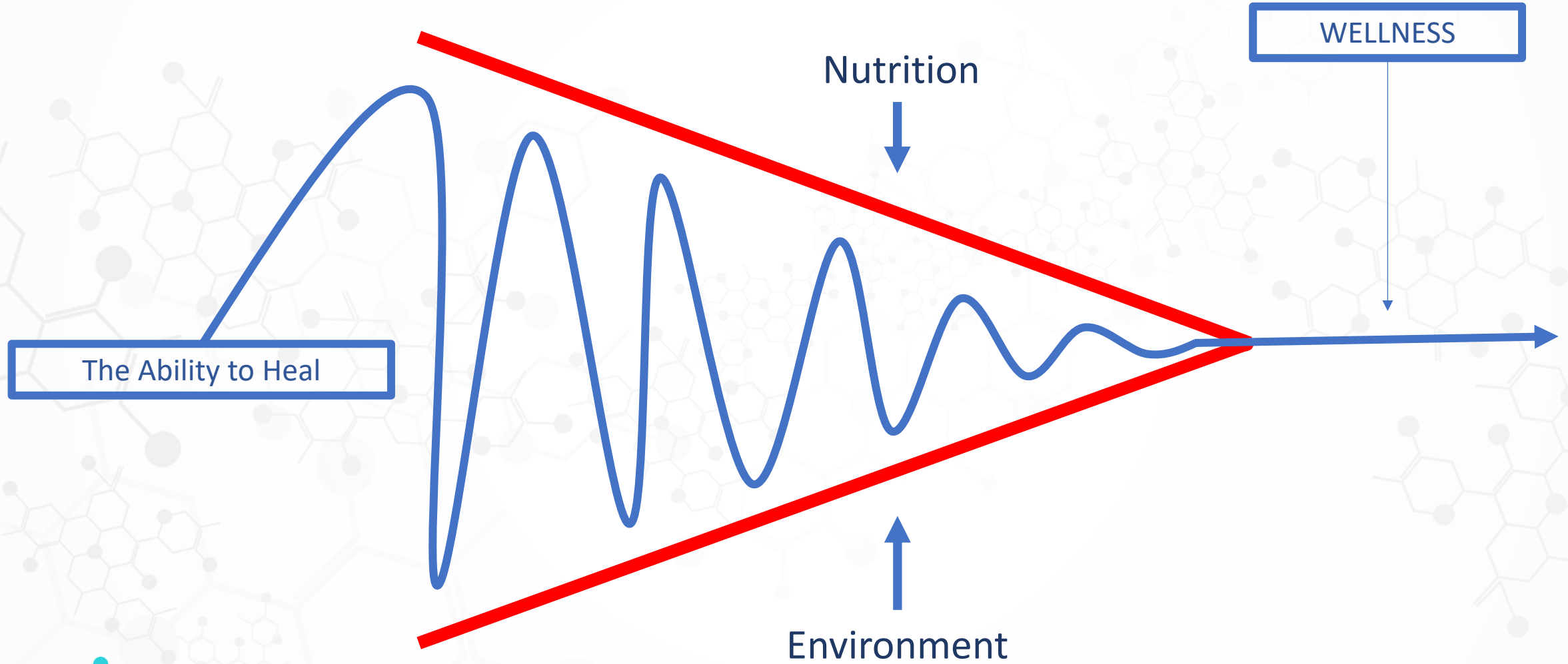




Lifestyle + Genetics = Chronic Health IMPROVEMENT



Protocols



The Ability to Heal

WELLNESS

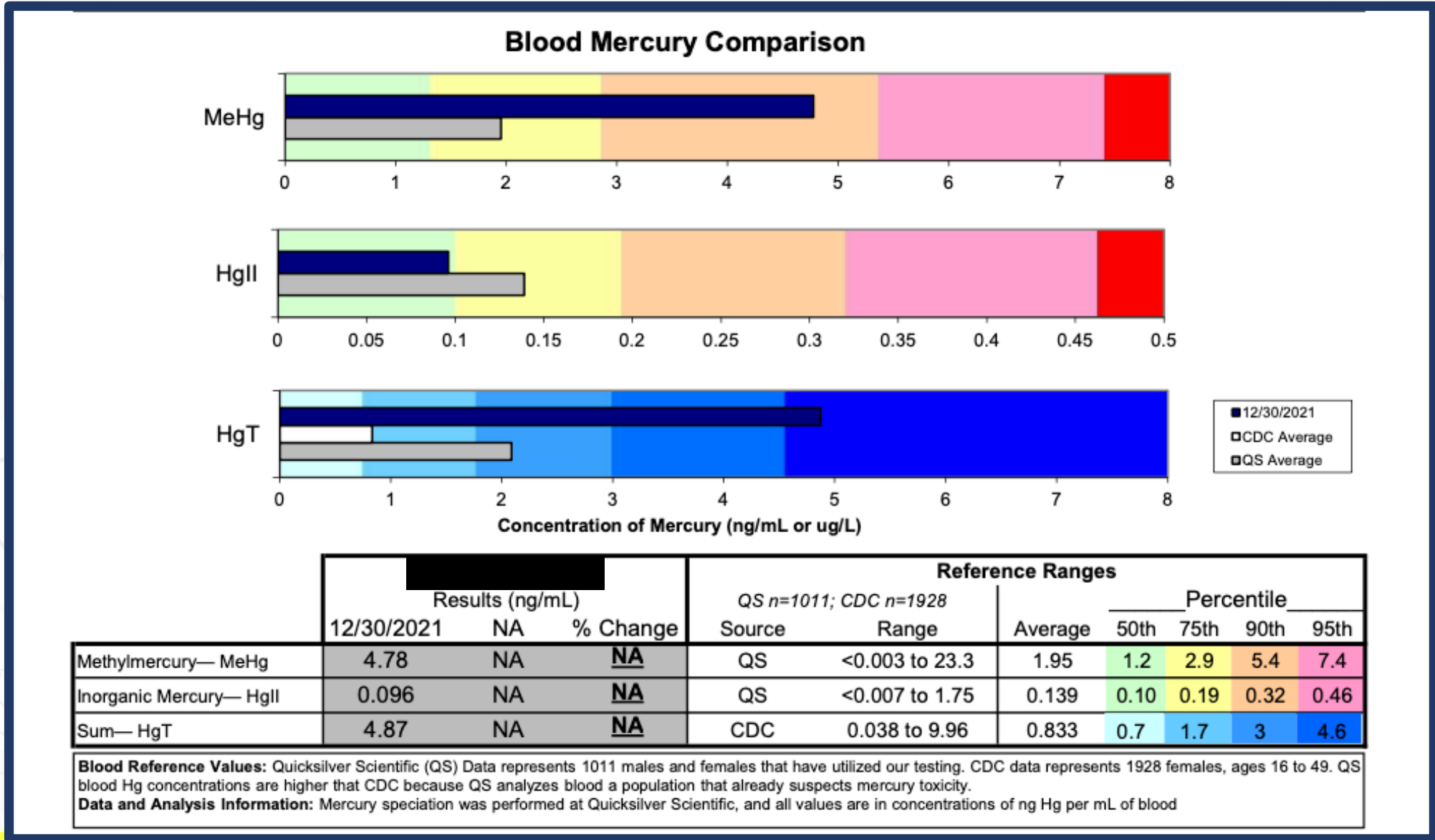
Nutrition



Environment



Case 1

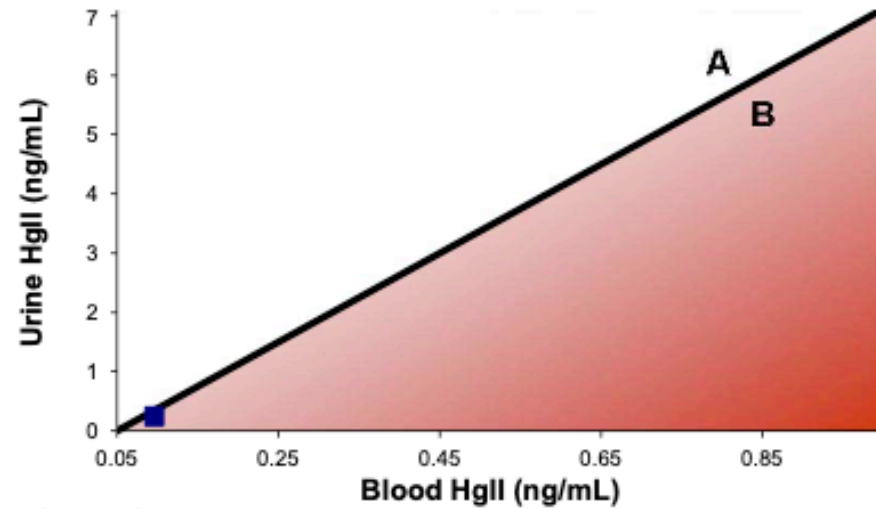


72 yo male c/ diabetes, hbp, neuropathy



Urine Results

Indication of Inorganic Mercury Excretion Ability



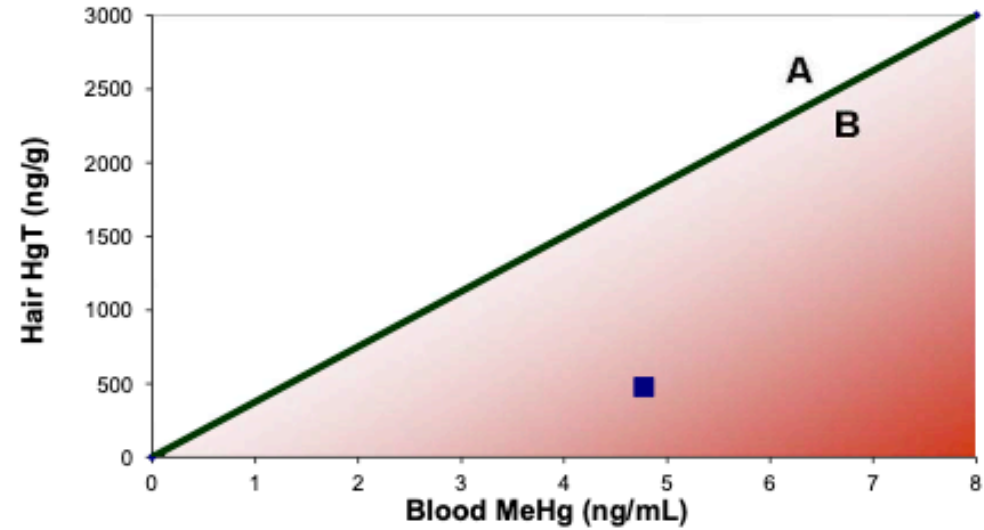
Legend

A) Average Excretion: Mercury output is average or above average when at a ratio of at least 375:1 HgT in hair to MeHg in blood and 6.9:1 HgT in urine to HgII in blood.

B) Below Average Excretion: Mercury output is below average when the tissue Hg comparisons are below ratios mentioned above (red area)

Hair Results

Indication of Methylmercury Excretion Ability



Methylmercury— MeHg	<0.005	NA	<u>NA</u>	NA
Inorganic Mercury— HgII	0.253	NA	<u>NA</u>	NA
Sum— HgT	0.253	NA	<u>NA</u>	476

	Urine Results (ng/mL)			Hair (ng/g)
	12/30/2021	NA	%Change	12/29/2021
Methylmercury— MeHg	<0.005	NA	<u>NA</u>	NA
Inorganic Mercury— HgII	0.253	NA	<u>NA</u>	NA
Sum— HgT	0.253	NA	<u>NA</u>	476



Nutrient Elements

Percentile Rank by Quintile										
Element	12/30/2021	NA	Range	Units	20	40	60	80	100	Percentile
Calcium	5.98	NA	4.7 - 6.4	mg/dL						81%
Copper	90	NA	63 - 113	µg/dL						54%
Lithium	1.3	NA	< 0.1 - 21	µg/L						44%
Magnesium	3.17	NA	2.93 - 4.17	mg/dL						15%
Manganese	7.6	NA	4.26 - 14.3	µg/L						29%
Molybdenum	1.6	NA	< 0.2 - 1.9	µg/L						90%
Selenium	294	NA	79 - 362	µg/L						81%
Zinc	652	NA	454 - 745	µg/dL						74%

Potentially Toxic Elements

Percentile Rank by Quintile										
Element	12/30/2021	NA	Range	Units	20	40	60	80	100	Percentile
Antimony	9.1	NA	< 7.0	µg/L						99%
Arsenic	6.6	NA	< 6.3	µg/L						92%
Cadmium	0.2 B	NA	< 0.74	µg/L						33%
Cobalt	0.2 B	NA	< 1.3	µg/L						41%
Lead	0.84	NA	< 2.34	µg/dL						33%
Mercury	4.5	NA	< 5.8	µg/L						67%
Silver	< 0.1	NA	< 2.6	µg/L						NA
Strontium	15	NA	< 470	µg/L						45%

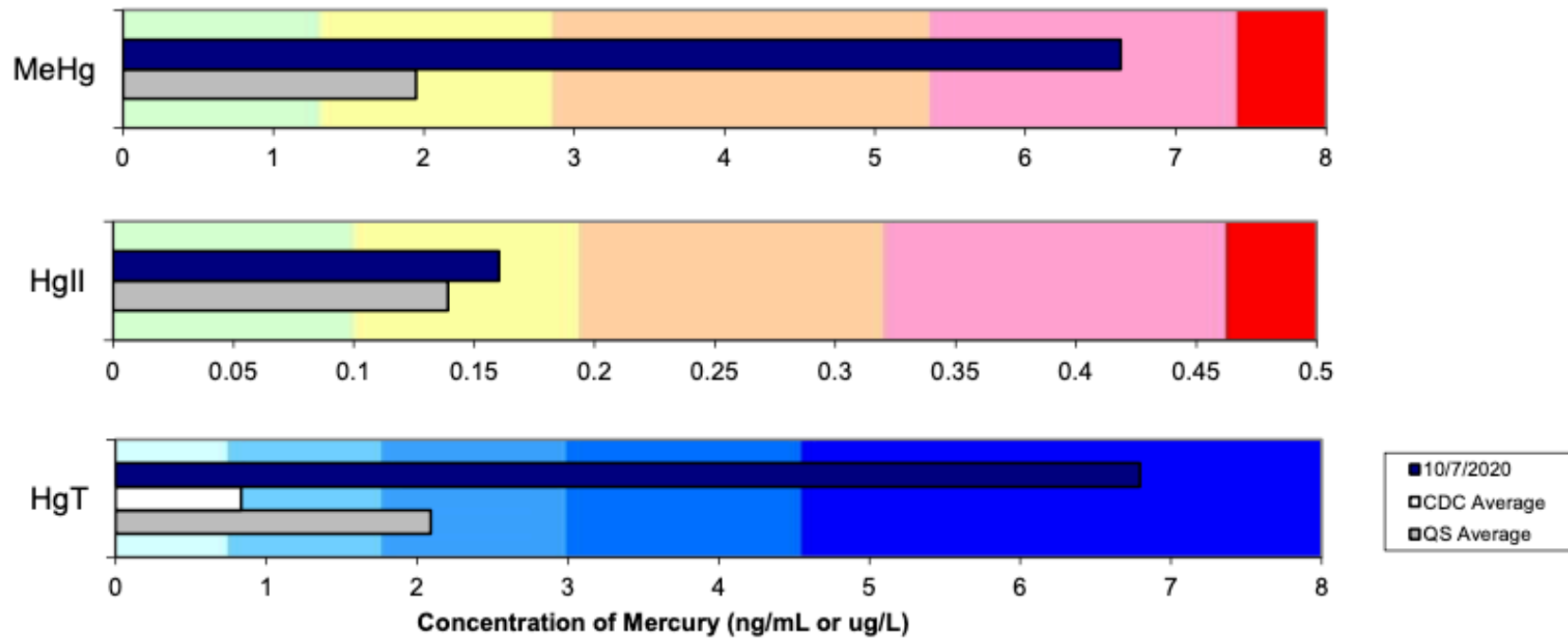
Whole Blood Element Ratios:

Element	12/30/2021	NA	Range	Units	20	40	60	80	100	Percentile
Ca/Mg Ratio	1.89	NA	1.20-1.99	NA						90%
Cu/Zn Ratio	0.14	NA	0.09-0.21	NA						35%



Case 2

Blood Mercury Comparison



	Results (ng/mL)			Reference Ranges						
	10/7/2020	NA	% Change	Source	Range	Average	Percentile			
							50th	75th	90th	95th
Methylmercury— MeHg	6.63	NA	NA	QS	<0.003 to 23.3	1.95	1.2	2.9	5.4	7.4
Inorganic Mercury— HgII	0.160	NA	NA	QS	<0.007 to 1.75	0.139	0.10	0.19	0.32	0.46
Sum— HgT	6.79	NA	NA	CDC	0.038 to 9.96	0.833	0.7	1.7	3	4.6

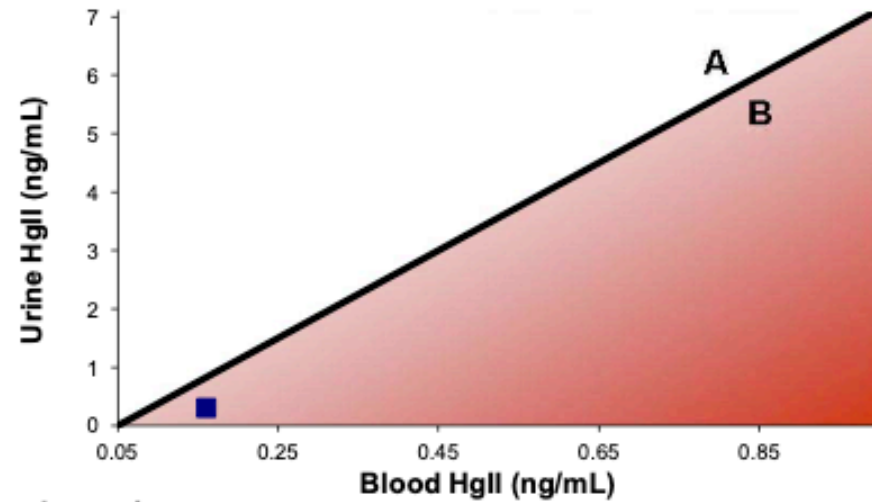
Blood Reference Values: Quicksilver Scientific (QS) Data represents 1011 males and females that have utilized our testing. CDC data represents 1928 females, ages 16 to 49. QS blood Hg concentrations are higher than CDC because QS analyzes blood a population that already suspects mercury toxicity.

Data and Analysis Information: Mercury speciation was performed at Quicksilver Scientific, and all values are in concentrations of ng Hg per mL of blood

70 yo female c/ chronic fatigue, CPS

Urine Results

Indication of Inorganic Mercury Excretion Ability



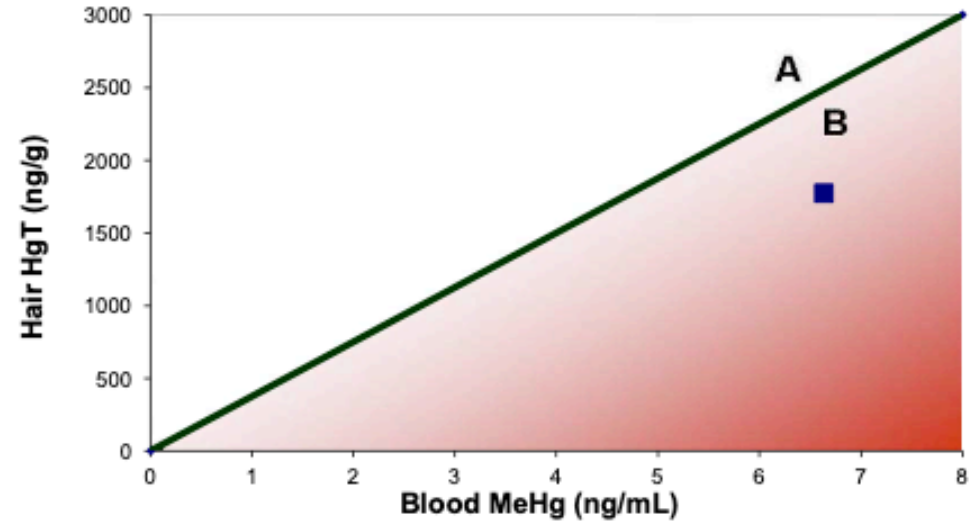
Legend

A) Average Excretion: Mercury output is average or above average when at a ratio of at least 375:1 HgT in hair to MeHg in blood and 6.9:1 HgT in urine to HgII in blood.

B) Below Average Excretion: Mercury output is below average when the tissue Hg comparisons are below ratios mentioned above (red area)

Hair Results

Indication of Methylmercury Excretion Ability



	Urine Results (ng/mL)			Hair (ng/g)
	10/7/2020	NA	%Change	10/6/2020
Methylmercury— MeHg	0.009	NA	<u>NA</u>	NA
Inorganic Mercury— HgII	0.306	NA	<u>NA</u>	NA
Sum— HgT	0.315	NA	<u>NA</u>	1774



Nutrient Elements

Percentile Rank by Quintile										
Element	10/7/2020	NA	Range	Units	20	40	60	80	100	Percentile
Calcium	5.25	NA	4.7 - 6.4	mg/dL						27%
Copper	88	NA	62 - 114	µg/dL						50%
Lithium	0.4 B	NA	<0.1-14.3	µg/L						37%
Magnesium	3.43	NA	2.93 - 4.2	mg/dL						38%
Manganese	6.1	NA	4.2-14.5	µg/L						14%
Molybdenum	1.2	NA	<0.2-1.7	µg/L						80%
Selenium	197	NA	73-361	µg/L						41%
Zinc	571	NA	450 - 744	µg/dL						38%

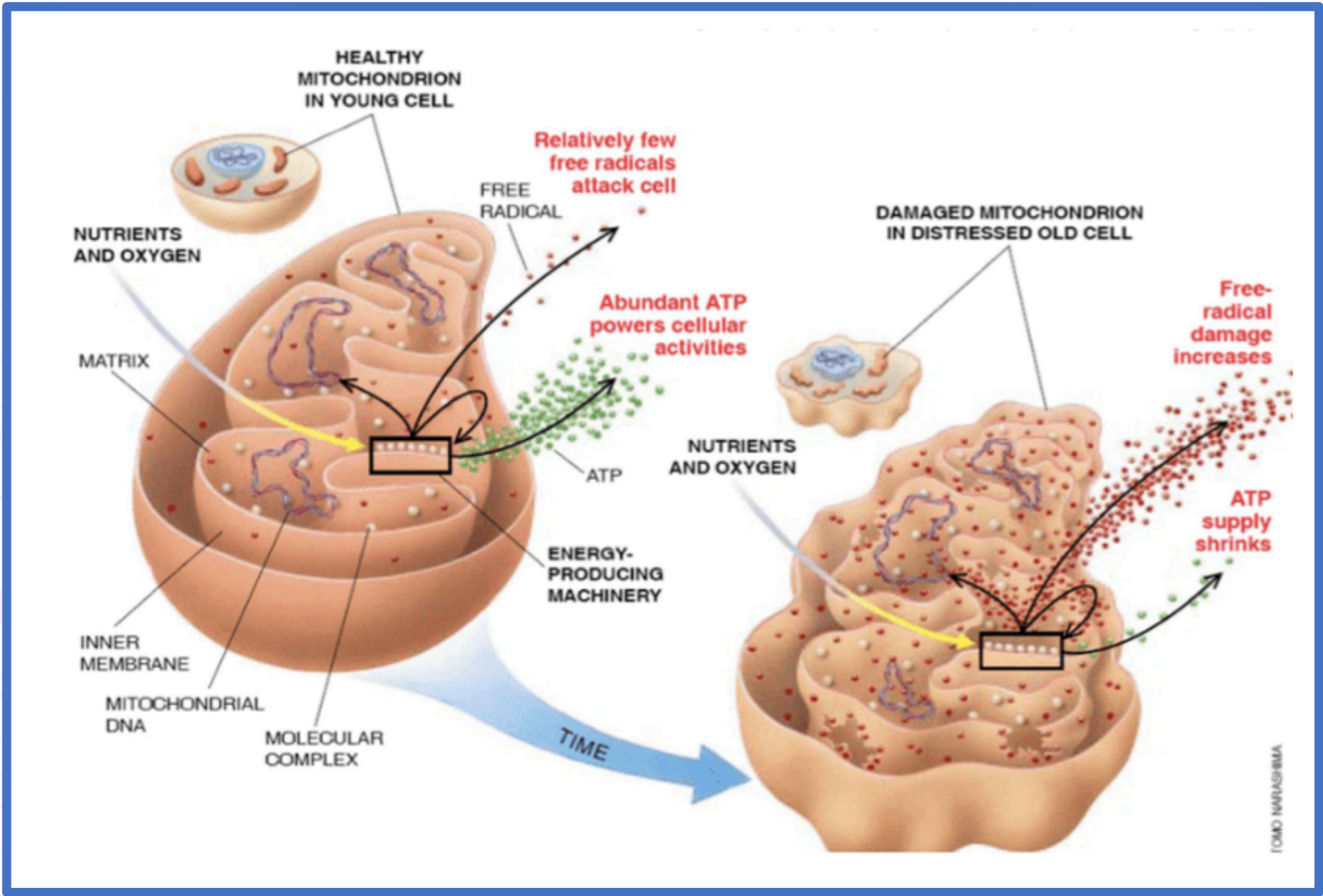
Potentially Toxic Elements

Percentile Rank by Quintile										
Element	10/7/2020	NA	Range	Units	20	40	60	80	100	Percentile
Antimony	8.6	NA	<7.5	µg/L						99%
Arsenic	3.4	NA	<5.0	µg/L						64%
Cadmium	0.4 B	NA	<0.84	µg/L						60%
Cobalt	0.2 B	NA	<5.0	µg/L						41%
Lead	1.17	NA	<2.6	µg/dL						48%
Mercury	6.5	NA	<6.0	µg/L						83%
Silver	< 0.1	NA	<2.6	µg/L						NA
Strontium	21	NA	<50	µg/L						47%

Whole Blood Element Ratios:

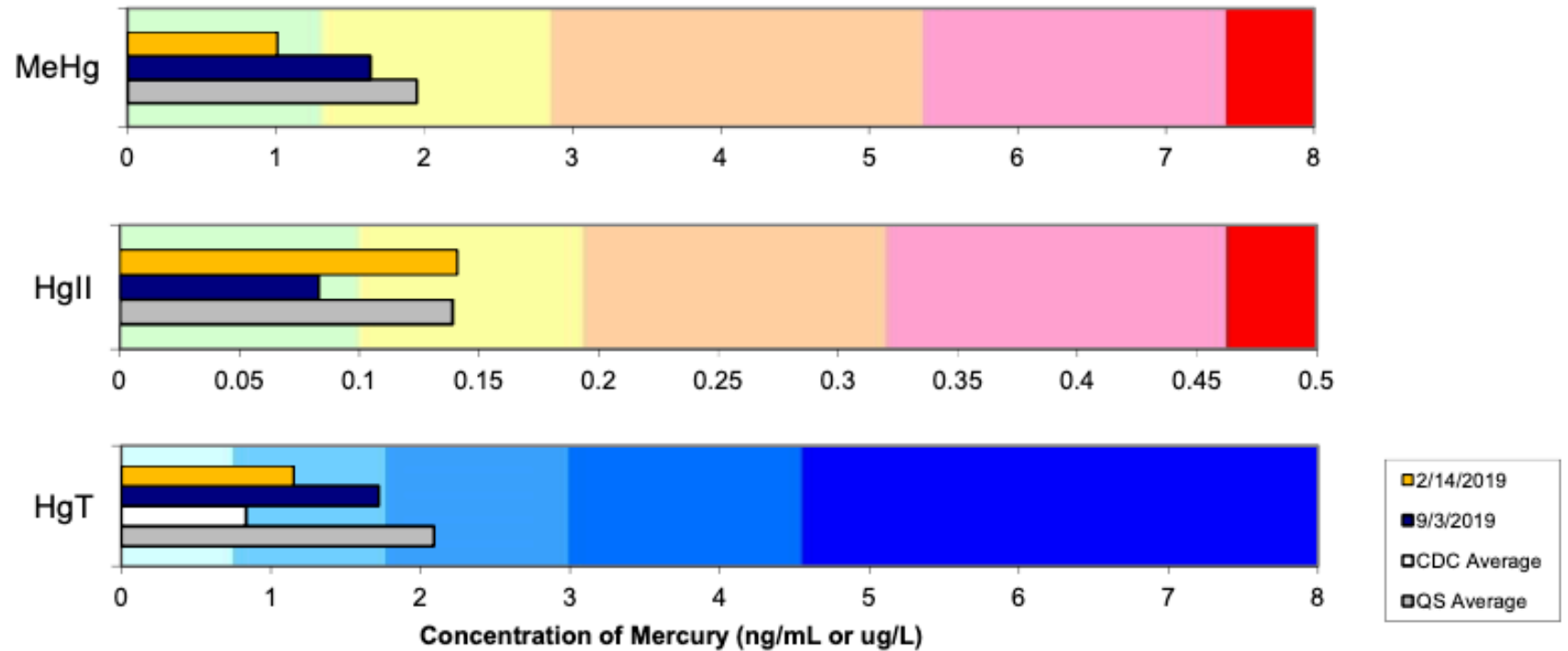
Element	10/7/2020	NA	Range	Units	20	40	60	80	100	Percentile
Ca/Mg Ratio	1.53	NA	1.20-1.99	NA						40%
Cu/Zn Ratio	0.15	NA	0.09-0.21	NA						53%





Case 3

Blood Mercury Comparison



	Results (ng/mL)			Reference Ranges						
	9/3/2019	2/14/2019	% Change	Source	Range	Average	Percentile			
							50th	75th	90th	95th
Methylmercury— MeHg	1.64	1.01	<u>62</u>	QS	<0.003 to 23.3	1.95	1.2	2.9	5.4	7.4
Inorganic Mercury— HgII	0.083	0.141	<u>-41</u>	QS	<0.007 to 1.75	0.139	0.10	0.19	0.32	0.46
Sum— HgT	1.72	1.15	<u>50</u>	CDC	0.038 to 9.96	0.833	0.7	1.7	3	4.6

Blood Reference Values: Quicksilver Scientific (QS) Data represents 1011 males and females that have utilized our testing. CDC data represents 1928 females, ages 16 to 49. QS blood Hg concentrations are higher than CDC because QS analyzes blood a population that already suspects mercury toxicity.

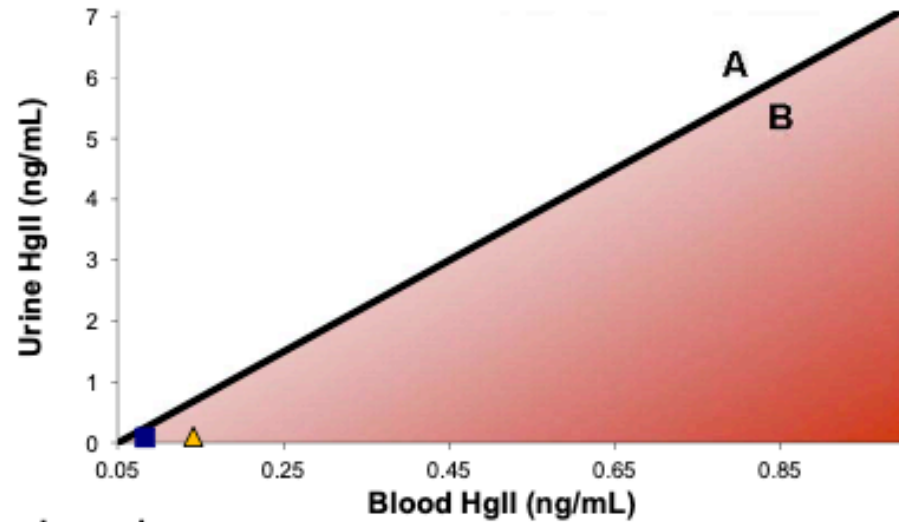
Data and Analysis Information: Mercury speciation was performed at Quicksilver Scientific, and all values are in concentrations of ng Hg per mL of blood

92 yo female c/ CD



Urine Results

Indication of Inorganic Mercury Excretion Ability



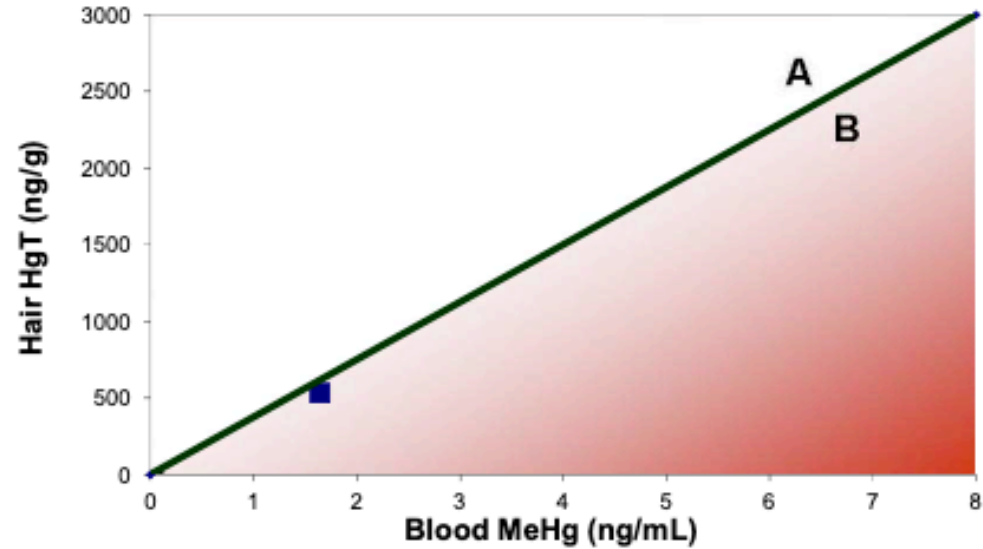
Legend

A) Average Excretion: Mercury output is average or above average when at a ratio of at least 375:1 HgT in hair to MeHg in blood and 6.9:1 HgT in urine to HgII in blood.

B) Below Average Excretion: Mercury output is below average when the tissue Hg comparisons are below ratios mentioned above (red area)

Hair Results

Indication of Methylmercury Excretion Ability



	Urine Results (ng/mL)			Hair (ng/g)
	9/3/2019	2/14/2019	%Change	9/3/2019
Methylmercury— MeHg	0.006	0.008	<u>-20</u>	NA
Inorganic Mercury— HgII	0.084	0.100	<u>-16</u>	NA
Sum— HgT	0.091	0.108	<u>-16</u>	534



Nutrient Elements

Percentile Rank by Quintile										
Element	9/3/2019	2/14/2019	Range	Units	20	40	60	80	100	Percentile
Calcium	6.25	5.51	5.03 - 6.49	mg/dL						88%
Copper	113	100	65 - 119	µg/dL						91%
Lithium	3.3	1.2	<0.1-160	µg/L						45%
Magnesium	3.50	3.76	3.04 - 4.26	mg/dL						34%
Manganese	4.6	5.9	2.3-14.5	µg/L						14%
Molybdenum	1.9	1.7	<0.2-1.4	µg/L						99.7%
Selenium	351	677	83-320	µg/L						98%
Zinc	509	544	467 - 754	µg/dL						12%

Potentially Toxic Elements

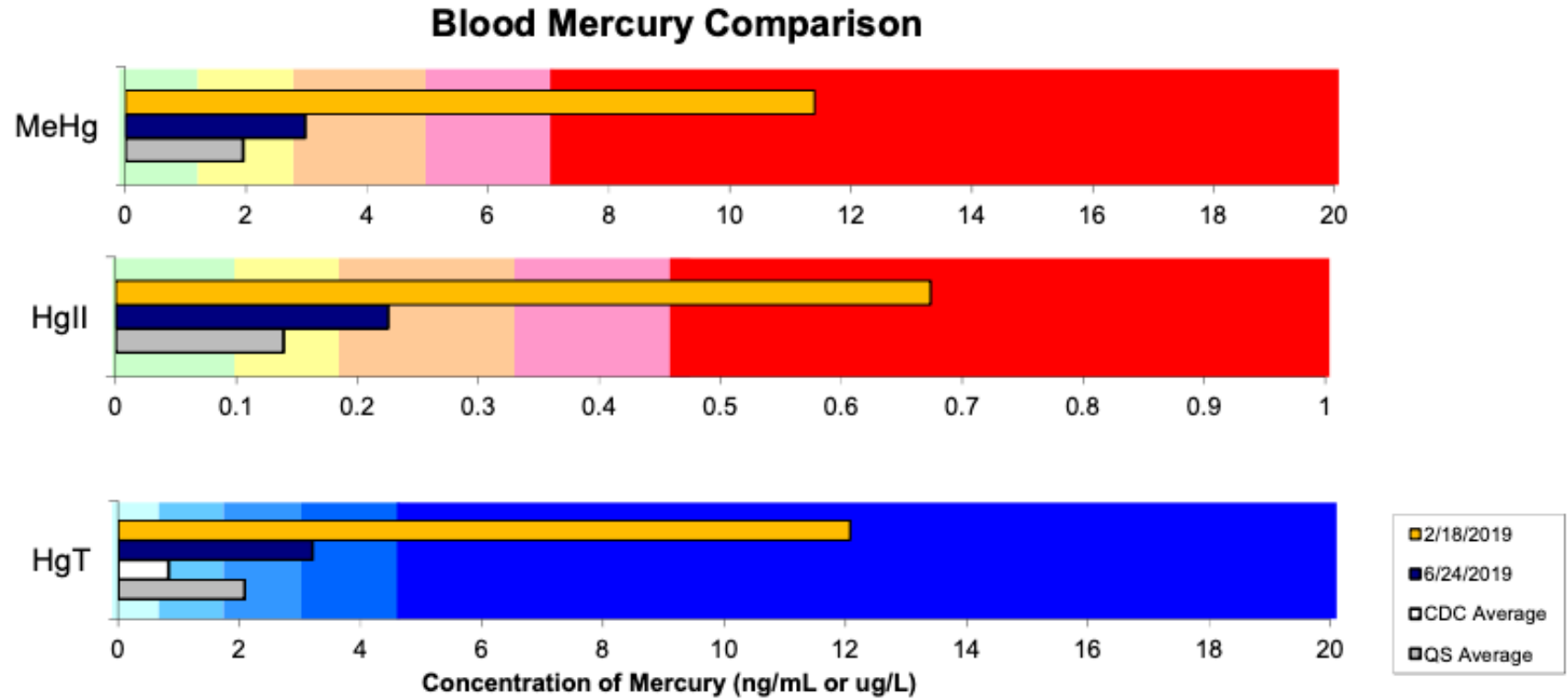
Percentile Rank by Quintile										
Element	9/3/2019	2/14/2019	Range	Units	20	40	60	80	100	Percentile
Antimony	5.3	3	<7.1	µg/L						58%
Arsenic	0.7	0.6	<4.7	µg/L						27%
Cadmium	0.5 B	0.6	<0.83	µg/L						67%
Cobalt	0.2 B	0.2 B	<5.0	µg/L						39%
Lead	1.80	2.29	<2.10	µg/dL						81%
Mercury	1.9	1.1	<5.8	µg/L						41%
Silver	< 0.1	< 0.1	<1.1	µg/L						NA
Strontium	29	21	<49	µg/L						61%

Whole Blood Element Ratios:

Element	9/3/2019	2/14/2019	Range	Units	20	40	60	80	100	Percentile
Ca/Mg Ratio	1.79	1.47	1.20-1.99	NA						80%
Cu/Zn Ratio	0.22	0.18	0.09-0.21	NA						98%



Case 4



	Results (ng/mL)			Reference Ranges						
	6/24/2019	2/18/2019	% Change	Source	Range	Average	Percentile			
							50th	75th	90th	95th
Methylmercury— MeHg	2.98	11.4	-74	QS	<0.003 to 23.3	1.95	1.2	2.9	5.4	7.4
Inorganic Mercury— HgII	0.226	0.674	-67	QS	<0.007 to 1.75	0.139	0.10	0.19	0.32	0.46
Sum— HgT	3.21	12.1	-73	CDC	0.038 to 9.96	0.833	0.7	1.7	3	4.6

Blood Reference Values: Quicksilver Scientific (QS) Data represents 1011 males and females that have utilized our testing. CDC data represents 1928 females, ages 16 to 49. QS blood Hg concentrations are higher than CDC because QS analyzes blood a population that already suspects mercury toxicity.

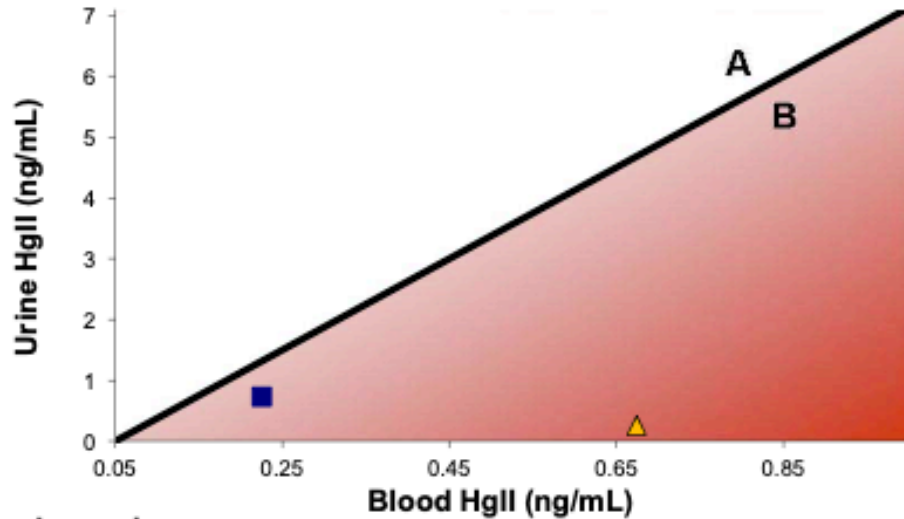
Data and Analysis Information: Mercury speciation was performed at Quicksilver Scientific, and all values are in concentrations of ng Hg per mL of blood

72 yo male c/diabetes, neuropathy, fatigue



Urine Results

Indication of Inorganic Mercury Excretion Ability



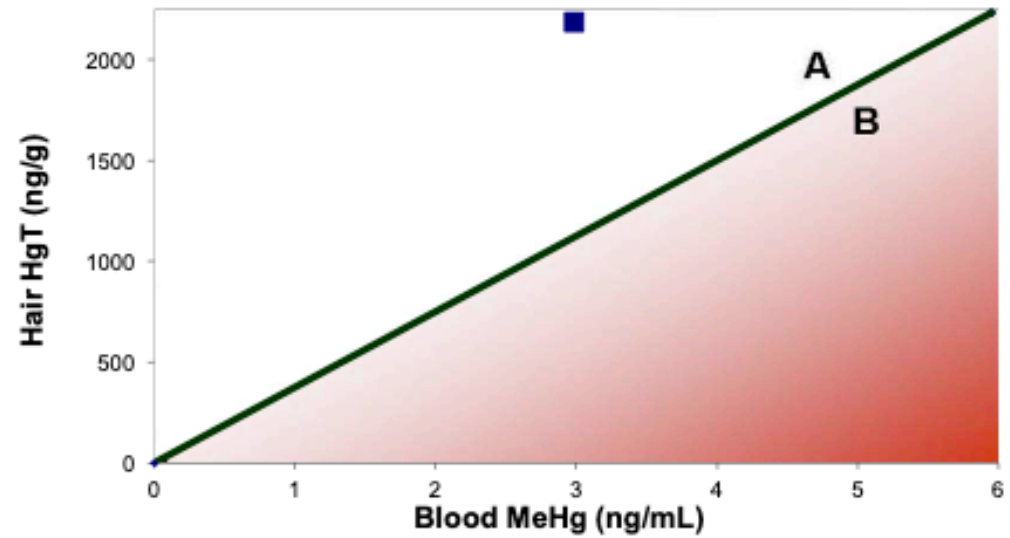
Legend

A) Average Excretion: Mercury output is average or above average when at a ratio of at least 375:1 HgT in hair to MeHg in blood and 6.9:1 HgT in urine to HgII in blood.

B) Below Average Excretion: Mercury output is below average when the tissue Hg comparisons are below ratios mentioned above (red area)

Hair Results

Indication of Methylmercury Excretion Ability



	Urine Results (ng/mL)			Hair (ng/g)
	6/24/2019	2/18/2019	%Change	6/24/2019
Methylmercury— MeHg	<0.005	0.016	<u>NA</u>	NA
Inorganic Mercury— HgII	0.730	0.262	<u>179</u>	NA
Sum— HgT	0.730	0.278	<u>163</u>	2187



Nutrient Elements

Percentile Rank by Quintile										
Element	6/24/2019	2/18/2019	Range	Units	20	40	60	80	100	Percentile
Calcium	6.03	6.05	5.03 - 6.49	mg/dL						74%
Copper	97	91	65 - 119	µg/dL						63%
Lithium	1.4	3.2	<0.1-160	µg/L						44%
Magnesium	3.59	3.32	3.04 - 4.26	mg/dL						43%
Manganese	11.5	9.1	2.3-14.5	µg/L						81%
Molybdenum	0.3 B	0.9	<0.2-1.4	µg/L						28%
Selenium	314	207	83-320	µg/L						95%
Zinc	674	484	467 - 754	µg/dL						78%

Potentially Toxic Elements

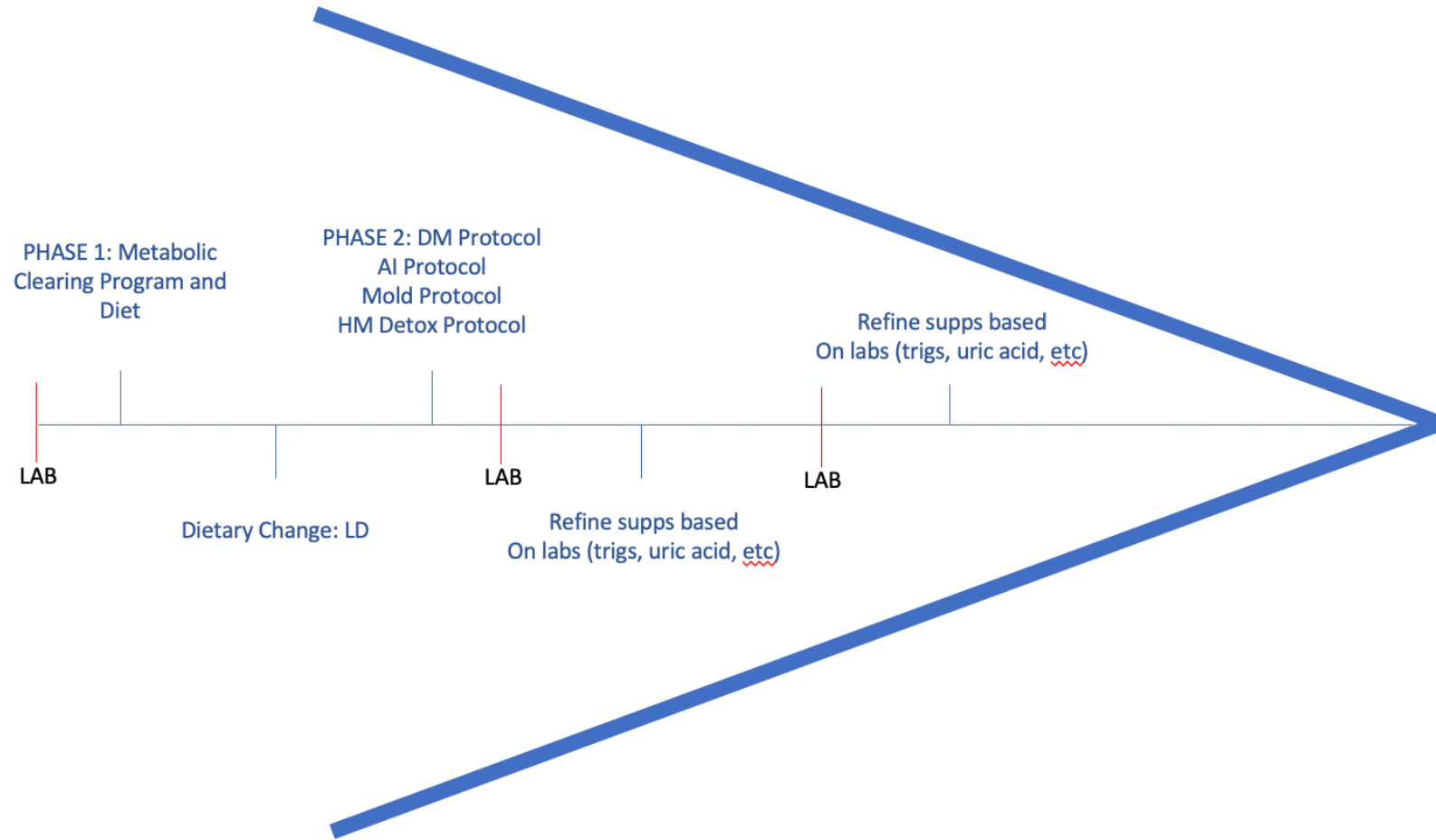
Percentile Rank by Quintile										
Element	6/24/2019	2/18/2019	Range	Units	20	40	60	80	100	Percentile
Antimony	4.6	3.9	<7.1	µg/L						41%
Arsenic	0.7	3.1	<4.7	µg/L						27%
Cadmium	0.2 B	0.2 B	<0.83	µg/L						35%
Cobalt	0.2 B	0.2 B	<5.0	µg/L						39%
Lead	2.29	2.31	<2.10	µg/dL						94%
Mercury	2.8	13.3	<5.8	µg/L						52%
Silver	< 0.1	< 0.1	<1.1	µg/L						NA
Strontium	20	39	<49	µg/L						35%

Whole Blood Element Ratios:

Element	6/24/2019	2/18/2019	Range	Units	20	40	60	80	100	Percentile
Ca/Mg Ratio	1.68	1.822	1.20-1.99	NA						65%
Cu/Zn Ratio	0.144	0.19	0.09-0.21	NA						41%



Supplement and Diet Protocols



Retest a lab at least every 60 days.

85% of patients will improve with basic structures and healthy eating.

% of problem analysis: this is what the cleanse is for.



General



Fine Tune



Biogenetix Binder Pro

- Capture bile – look for the green pigment stain
- Naturally dampen LPS
- Support Retoxification Control
- Enhance inflammation management
- Cultivate optimal microbiome



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