Casual Friday Series

Gluten Free Heavy Metals

A Biogenetix Clinical Presentation

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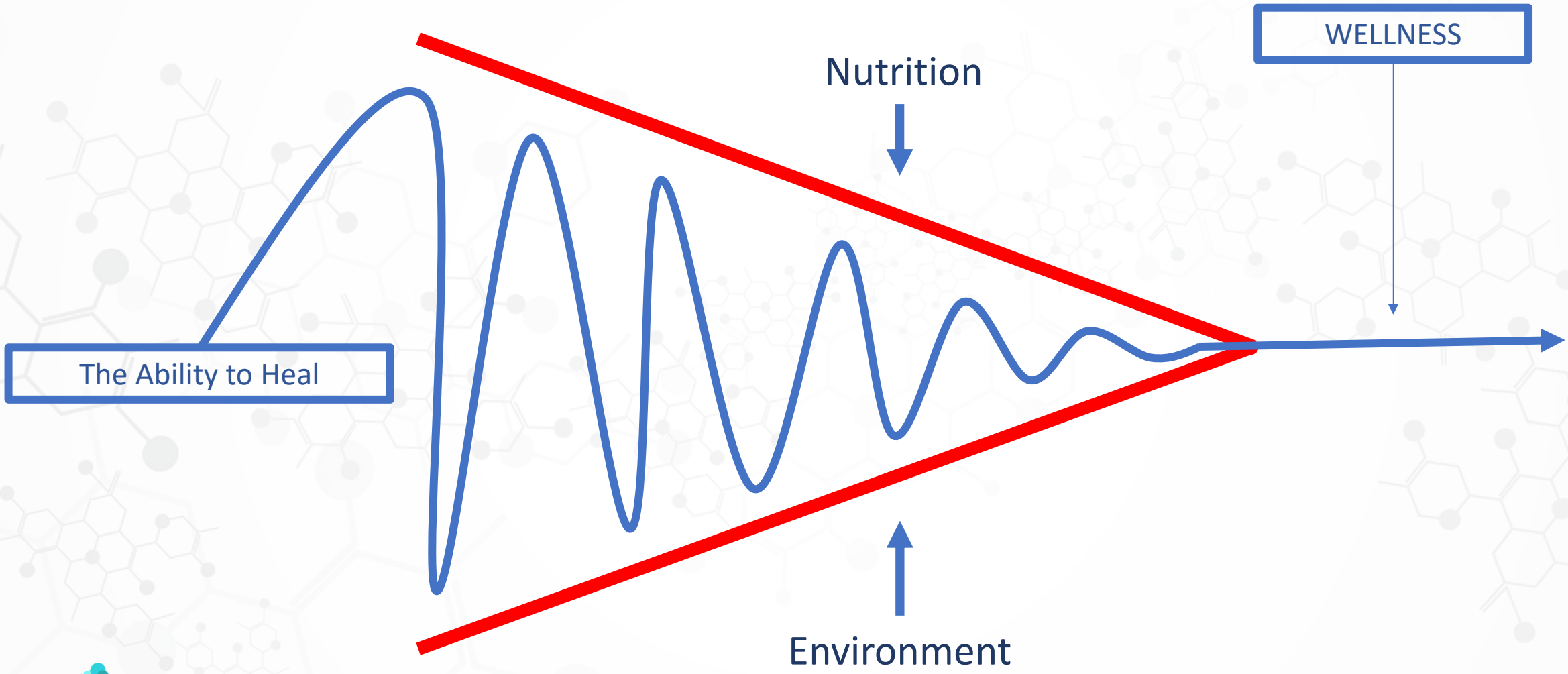
Disclaimer

- *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.*

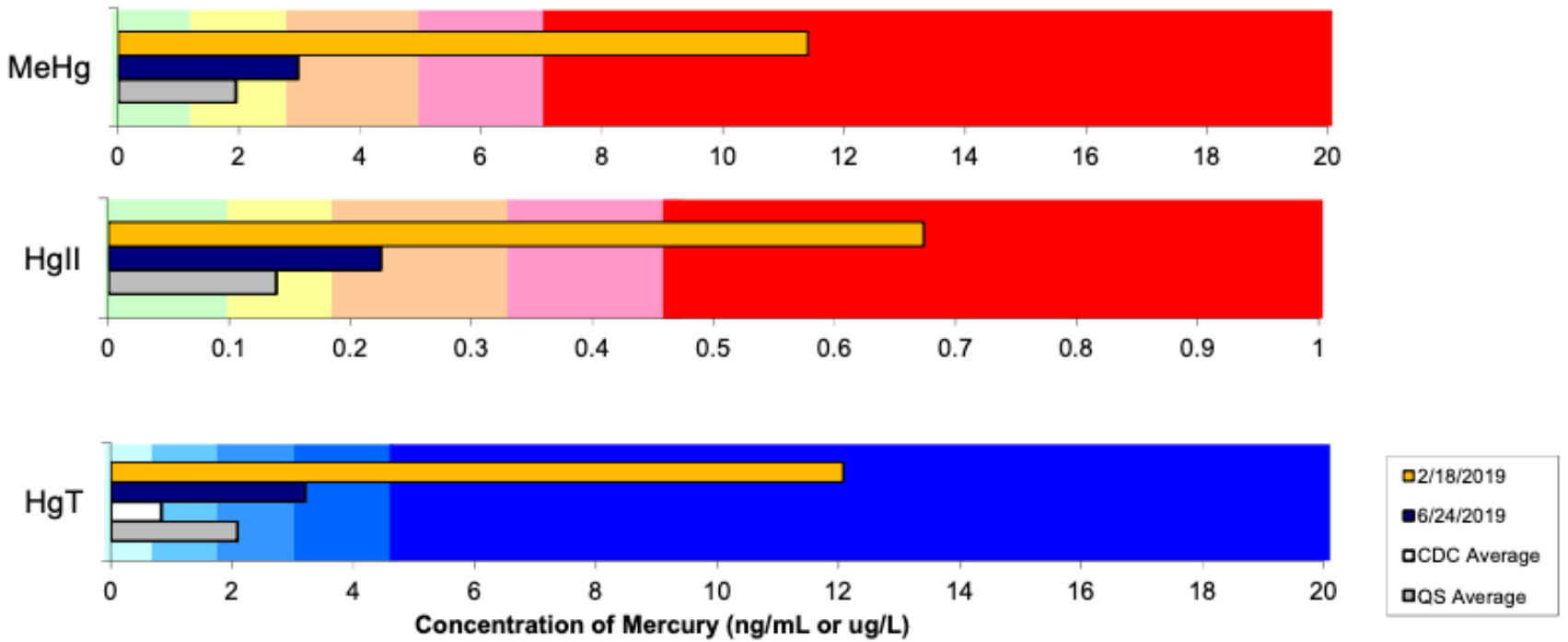
Lifestyle + Genetics = Chronic Health IMPROVEMENT

Protocols



Case 4

Blood Mercury Comparison



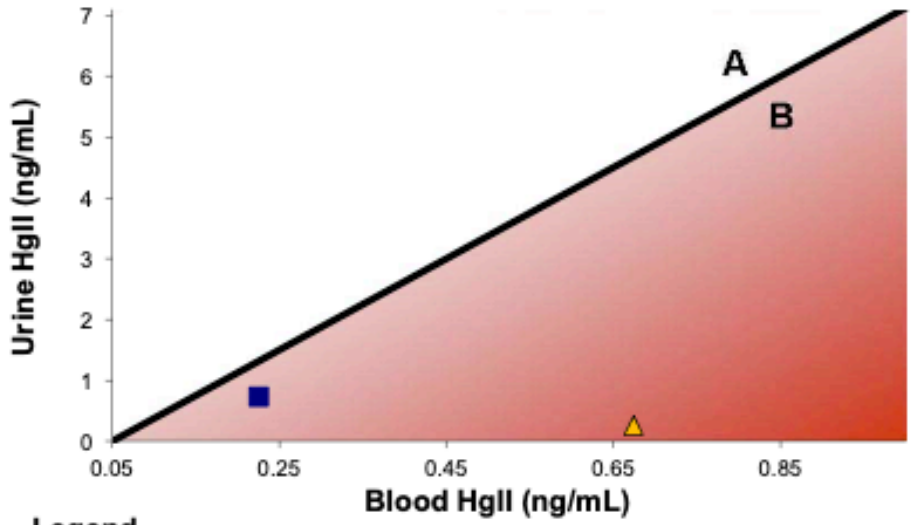
	[redacted] Results (ng/mL)			Reference Ranges QS n=1011; CDC n=1928			Percentile			
	6/24/2019	2/18/2019	% Change	Source	Range	Average	50th	75th	90th	95th
Methylmercury— MeHg	2.98	11.4	-74	QS	<0.003 to 23.3	1.95	1.2	2.9	5.4	7.4
Inorganic Mercury— HgII	0.226	0.674	-67	QS	<0.007 to 1.75	0.139	0.10	0.19	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 that 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



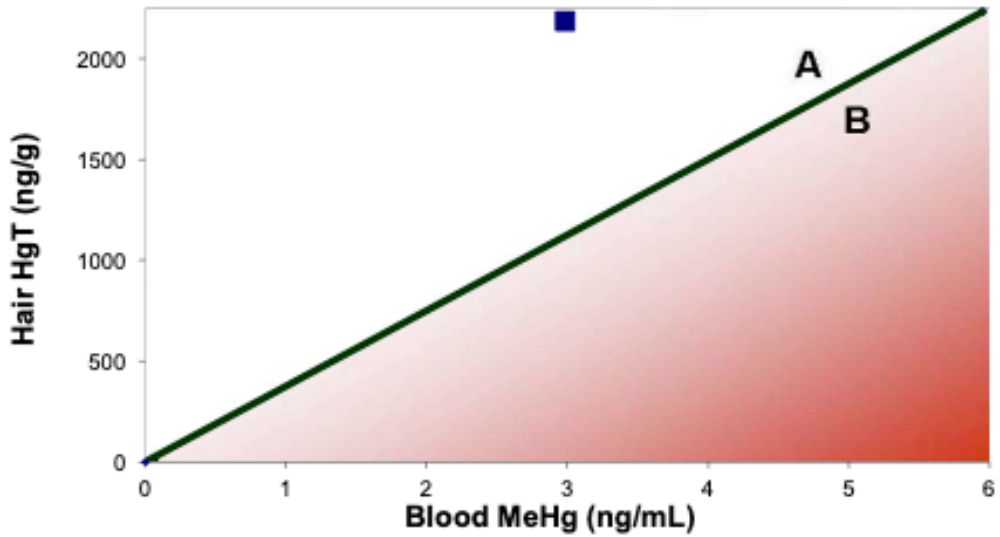
Legend

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.

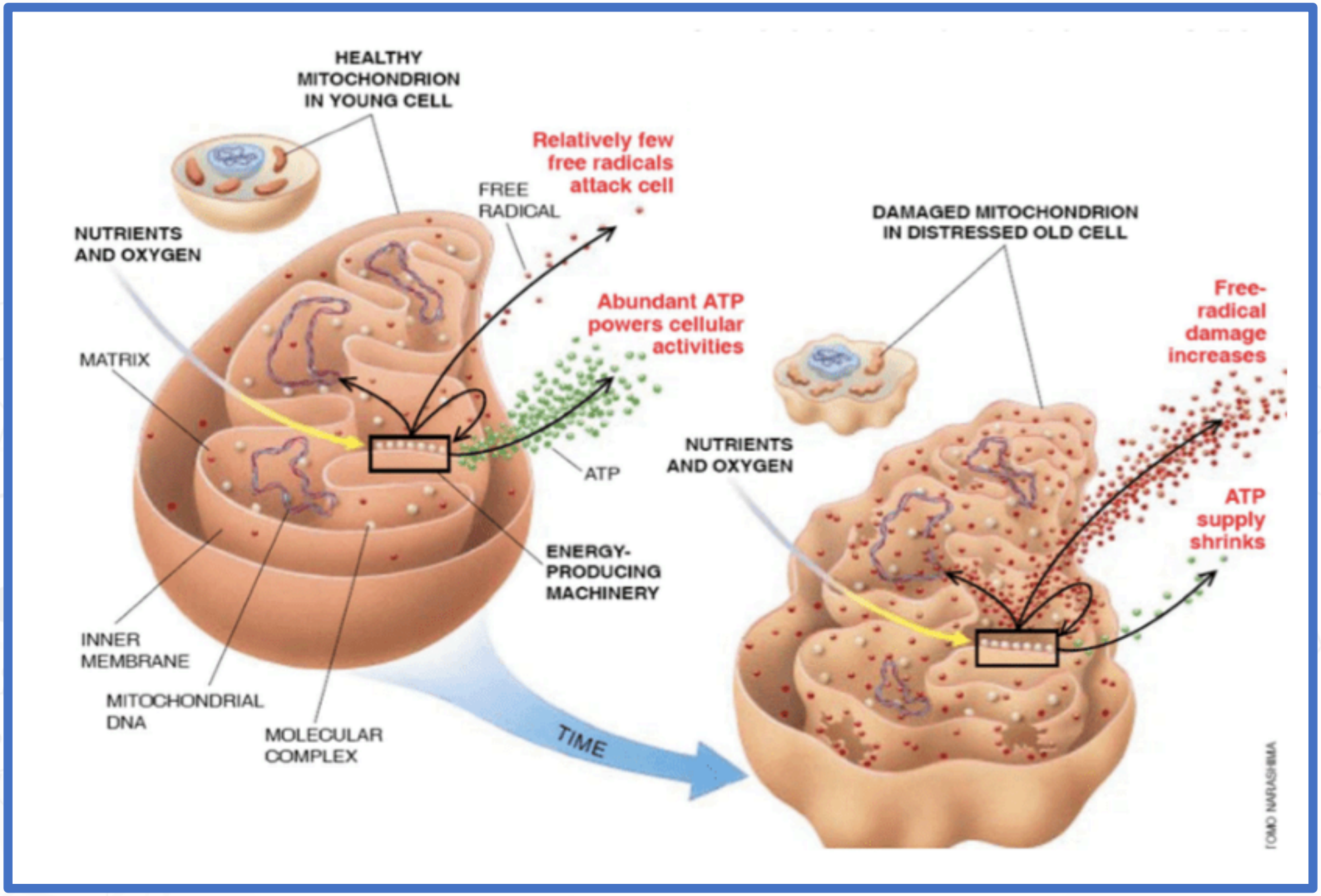
B) Below Average Excretion: Mercury output is below average when the tissue Hg comparisons are below ratios mentioned above (red area)

Hair Results

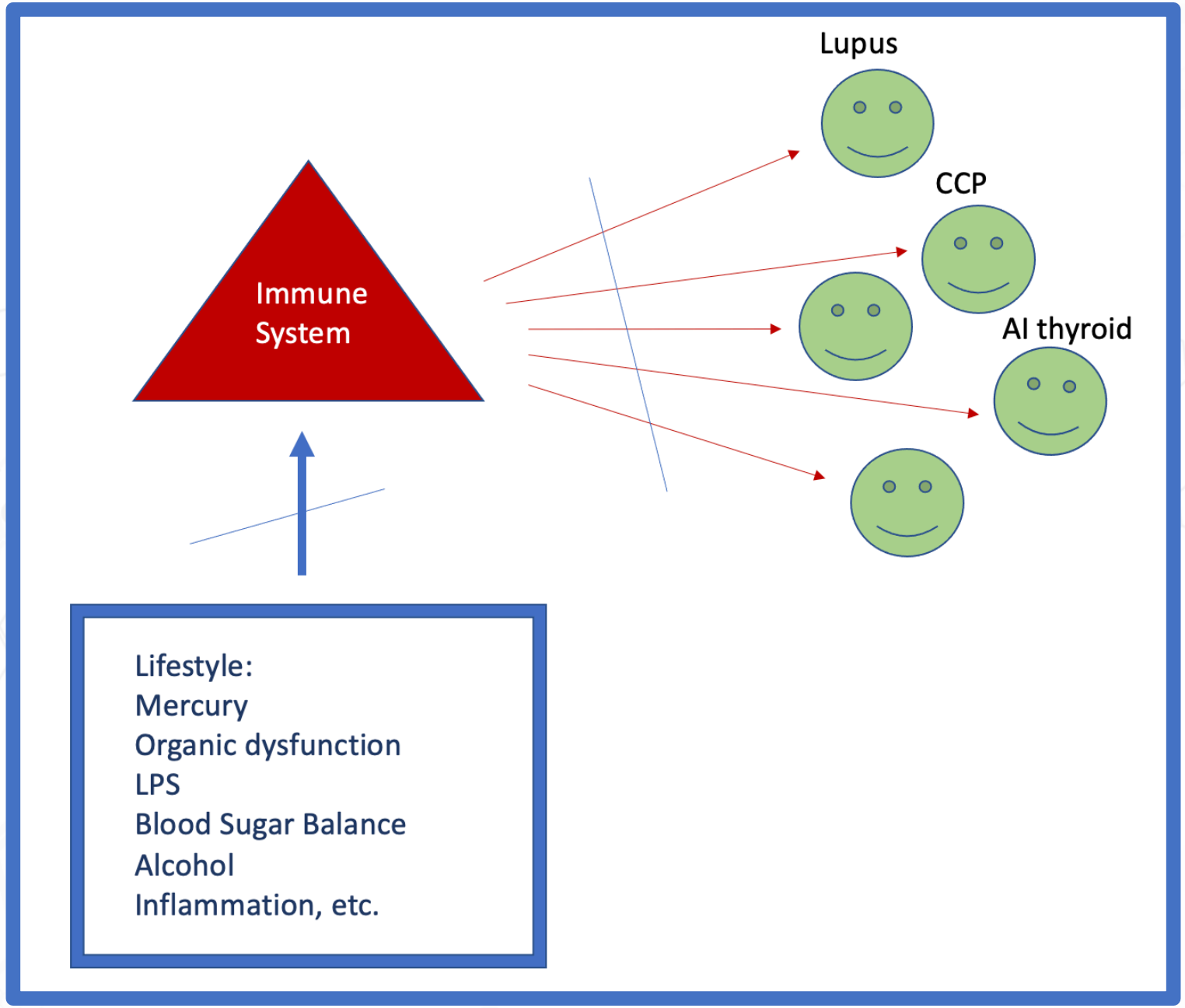
Indication of Methylmercury Excretion Ability



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



https://covingtonpediatrics.com/blog/fix-your-mitochondria-fix-your-brain/


Lupus
CCP
AI thyroid
Immune System
Lifestyle:
Mercury
Organic dysfunction
LPS
Blood Sugar Balance
Alcohol
Inflammation, etc.

The Unintended Consequences of a Gluten-free Diet

Bulka, Catherine M.; Davis, Matthew A.; Karagas, Margaret R.; Ahsan, Habibul; ***Argos***, ***Maria***

Author Information

Gluten-free diets have become immensely popular in the United States. Despite <1% of Americans having diagnosed celiac disease, an estimated 25% of American consumers reported consuming gluten-free food in 2015, a 67% increase from 2013.[1,2] Gluten is a protein found in a variety of grains including wheat, rye, and barley and their flours. Commercial gluten-free products primarily contain rice flour as a substitute.[3] Emerging evidence suggests rice-based products can contain high levels of toxic metals; rice is a recognized source of arsenic and methylmercury exposure.[4,5] Despite such a dramatic shift in the diet of many Americans, little is known about how gluten-free diets might affect exposure to toxic metals found in certain foods.

In 2015, one-quarter of Americans reported eating gluten-free, a 67% increase from 2013. Gluten-free products often contain rice flour as a substitute for wheat. Rice is known to bioaccumulate certain toxic metals, including arsenic and mercury from fertilizers, soil, or water, but little is known about the health effects of diets high in rice content.

Maria Argos, PhD, an assistant professor of epidemiology and biostatistics in the University of Illinois at Chicago School of Public Health, and colleagues looked at data from the National Health and Nutrition Examination Survey searching for a link between a gluten-free diet and biomarkers of toxic metals in blood and urine.

They found 73 participants who reported eating a gluten-free diet among the 7,471 who completed the survey, between 2009 and 2014. Participants ranged in age from 6 to 80 years old.

People who reported eating gluten-free had higher concentrations of arsenic in their urine and mercury in their blood than those who didn't. Arsenic levels were almost twice as high for people eating a gluten-free diet, and mercury levels were 70% higher.

"These results indicate that there could be unintended consequences of eating a gluten-free diet," Argos says. "But until we perform the studies to determine if there are corresponding health consequences that could be related to higher levels of exposure to arsenic and mercury by eating gluten-free, more research is needed before we can determine whether this diet poses a significant health risk.

"In Europe, there are regulations for food-based arsenic exposure, and perhaps that is something we here in the United States need to consider," Argos says. "We regulate levels of arsenic in water, but if rice flour consumption increases the risk of exposure to arsenic, it would make sense to regulate the metal in foods as well."

https://www.todaysdietitian.com/news/042117_news.shtml

Accumulation of Heavy Metals in People on a Gluten-Free Diet

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lation who seek and follow a GFD. Certainly, patients with CD greatly benefit from a GFD, despite such less desirable outcomes as nutritional deficiencies. The present study shows a significant increase in levels of blood lead, cadmium, and mercury, as well as urinary total arsenic, among persons following a GFD, compared with persons not following a GFD. Importantly, these levels for most people adhering to a GFD did not reach or exceed the recognized toxic levels of the metals except arsenic.

Adhering to a strict GFD is challenging for persons who have gluten-related conditions because it is difficult to follow, has psychological burdens, and diminishes nutritional health, especially in levels of iron, calcium, thiamine, riboflavin, and folate.[6,7] In addition, gluten-containing cereals are one of the major sources of dietary fiber in the United States, so people following a GFD may be at risk for inadequate fiber intake.[6,7] Case

Our study addresses whether different groups of persons who avoid dietary gluten have increased concentrations of these metals because they consume foods that have higher levels of dietary metals. Surprisingly, a recent report by Elli et al[13] that evaluated blood and urinary levels of mercury in CD patients showed mercury levels at significantly higher levels in patients with CD following a GFD without differences in fish intake or amalgam teeth fillings. The explanation of increased mercury levels in treated CD patients may be arguable. However, regardless of CD status, our study showed that people following a GFD had higher blood mercury levels than people not on a GFD. Because the proportion of people who ate fish in the past 30 days was greater in people following a GFD than in those not following a GFD, fish consumption could result in increased mercury concentration in people adhering to a GFD. Interestingly, when analysis was restricted to persons who consumed fish in the past 30 days, those adhering to a GFD had higher mercury levels than those who were not, suggesting that not only seafood but also other foods have a role in this association.

The present study had several limitations. First, with regard to determining GFD status, only 1 question was used. The general population may not have enough knowledge about a GFD to correctly answer this question.[32] However, in the NHANES study, health-related questions including following a GFD were administered by trained interviewers, and thus bias on the response to a gluten-related question would be minimized.[14–16] Second, metal accumulation does not rely on results from food avoidance but rather depends on what foods people use as substitutes for gluten-containing cereals. Third, the number of cases that followed a GFD (n = 115) was small, so the findings of the study should be interpreted cautiously. However, our analysis followed the

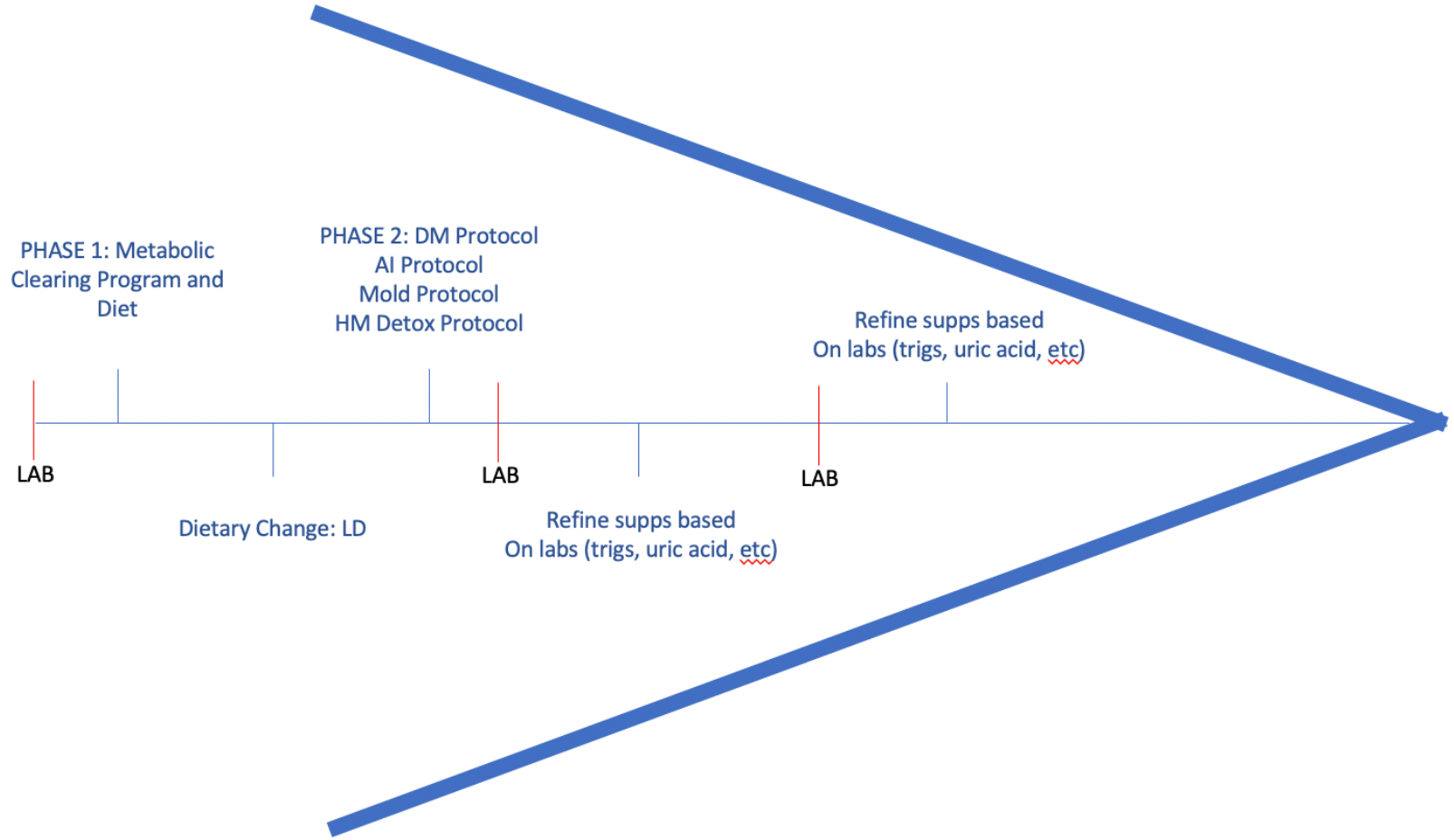
How to Kill Chronic Disease

- Meat
- Vegetables
- Nuts and seeds
- A little fruit.

+

Targeted supplements based on on the patient's unique chemical signatures. Update the program every 60-90 days.

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

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