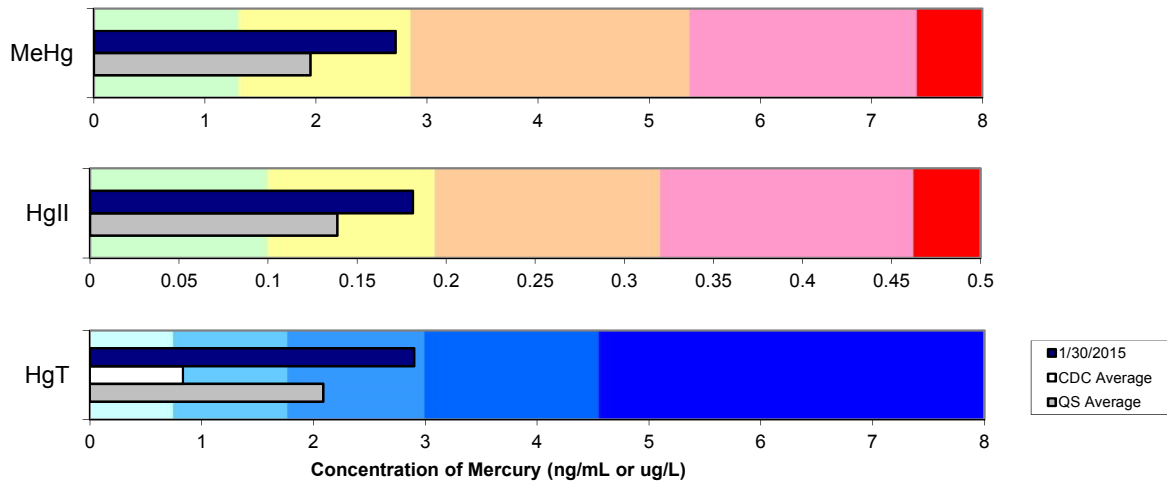


## Damien Blenkinsopp

Physician Name	Chris Shade	Dates	Taken	Arrived	Analyzed
Date Of Birth	11/13/1974		1/30/2015	2/10/2015	2/12/2015
			NA	NA	NA

### Blood Results

#### Blood Mercury Comparison



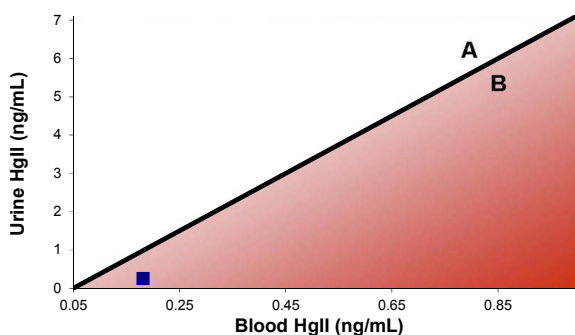
	Damien Blenkinsopp Results (ng/mL)			Reference Ranges						
	1/30/2015	NA	% Change	Source	Range	Average	50th	75th	90th	95th
Methylmercury— MeHg	2.72	NA	NA	QS	<0.003 to 23.3	1.95	1.2	2.9	5.4	7.4
Inorganic Mercury— Hg <sup>II</sup>	0.181	NA	NA	QS	<0.007 to 1.75	0.139	0.10	0.19	0.32	0.46
Sum— HgT	2.90	NA	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

### Urine Results

#### Indication of Inorganic Mercury Excretion Ability



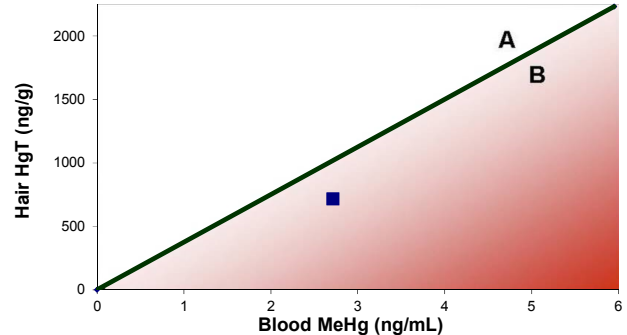
#### Legend

**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



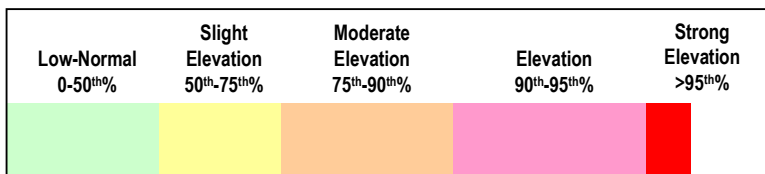
#### Damien Blenkinsopp

	Urine Results (ng/mL)			Hair (ng/g)
	2/2/2015	NA	%Change	2/2/2015
Methylmercury— MeHg	0.019	NA	NA	NA
Inorganic Mercury— Hg <sup>II</sup>	0.242	NA	NA	NA
Sum— HgT	0.261	NA	NA	714

## Interpreting This Report

Patients should rely on a trained physician for the interpretation of their mercury laboratory results. NOTE: Reference values used here, with the exception of the total mercury references provided by the U.S. Center for Disease Control, reflect patient data generated at Quicksilver Scientific. Quicksilver Scientific references are updated periodically.

**Your Blood Results:** Methylmercury (MeHg) and inorganic mercury (HgII) were directly measured via mercury speciation analysis (Liquid Chromatography coupled to Cold-Vapor Atomic Fluorescence Spectrometry). The total mercury result is calculated as the sum of measured methylmercury and inorganic mercury. Methylmercury and inorganic mercury data will give your doctor indications on your most consequential mercury exposures. Methylmercury is absorbed from consumed fish and a small amount is also formed in the gut from amalgam-derived mercury swallowed with saliva. Inorganic mercury is



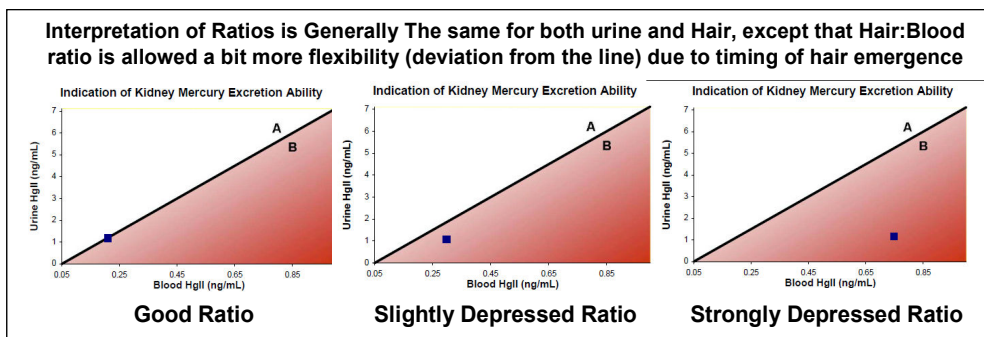
derived from inhalation of mercury released by dental amalgam, from airborne mercury, from demethylation of methylmercury from fish, and from certain cosmetics (e.g. skin whitening creams). You can compare your methylmercury and inorganic mercury results to the color ranges in the bar chart; these are based on percentiles of the tested

population and can be interpreted as shown here for either methyl or inorganic mercury. Your total mercury result does not show exposure routes but is provided for comparison to U.S. averages of blood mercury Center for Disease Control percentiles (tests not performed at Quicksilver Scientific).

**Your Urine Results:** Your inorganic mercury results are the most important of your urine results. Mercury in urine is almost exclusively inorganic mercury and urinary output is a dominant excretion pathway for inorganic mercury. Your urinary methylmercury results are less important because it is not a good indicator of methylmercury removal from the body. As with blood, total mercury is inferred by adding your inorganic mercury and methylmercury results.

**Your Hair Results:** Essentially all Hg in hair begins as methylmercury, thus speciation analysis is not necessary. Hair mercury results are determined by total mercury analysis (Combustion/Au-amalgamation/Cold-Vapor Atomic Absorption) or mercury speciation analysis. If your hair results were determined by mercury speciation, your total mercury has been determined by adding methylmercury to inorganic mercury. If your hair results were determined by total mercury analysis, your results will not include individual measurements of methylmercury and inorganic mercury.

**Understanding Your Urine:Blood Ratio:** Your inorganic excretion index is described in the graph. The point on the graph represents your blood inorganic mercury and your urine inorganic mercury. The line on the graph shows optimum excretion of inorganic mercury in urine, as determined by histograms of the populations measured by Quicksilver Scientific. If your point appears on or above the diagonal line on the graph, your kidneys are excreting mercury at a healthy rate, enabling you to remove inorganic mercury as you are exposed to it. For these people, the blood levels decline rapidly after cessation of exposure (such as amalgam removal). If your point



occurs below the line, your kidneys are not efficiently removing the inorganic mercury from the blood, usually resulting in buildup of blood levels and bodily stores of inorganic mercury. For these people, the blood levels are slow to drop after removal from exposure.

**Understanding Your Hair:Blood Ratio:** Your Hair-Hg:Blood-MeHg ratio gives an indication of methylmercury excretion. The diagonal line on the graph represents an ideal Hair:Blood ratio, as determined from histograms of our measured population. Research by Holmes et al. (International Journal of Toxicology, 22:277-285, 2003) has shown a low hair excretion level in autistics despite known mercury exposures. The Blood:Hair ratio is used to identify individuals with impaired detoxification and excretion pathways for organomercury forms - methylmercury and ethylmercury (contained in thimerosal). If your point is placed at or above the line, transport dynamics for methylmercury are likely functioning well. If your point is below the line, you may have issues with metabolism of methylmercury. This ratio is sensitive to recent changes in fish consumption since the hair numbers are reflective of blood levels one to three months prior to when the hair was cut. Recent lowering of fish consumption may make the ratio appear high, whereas recent increases in fish consumption may make the ratio appear low - especially fish consumed within 2-3 days of the blood draw. Thus this ratio needs to be interpreted with more flexibility and leniency, including incorporation of recent dietary history, than the urine: blood ratio.