Detoxification Profile (Comprehensive)

Genova Diagnostics®
Innovative Testing for Optimal Health

63 Zillicoa Street
Asheville, NC 28801

Patient: **ALESSA**

Age:
Sex:
MRN:

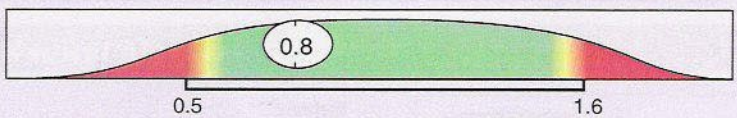
Order Number:
Completed: January 03, 2007
Received: December 21, 2006
Collected: December 20, 2006

Shera Raisen MD
1260 15th St Ste 1006
Santa Monica, CA 90403

Phase I

Caffeine Clearance

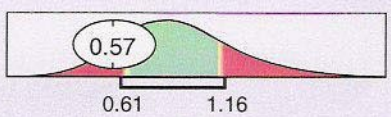
Ref Range mL/min/kg



Phase II

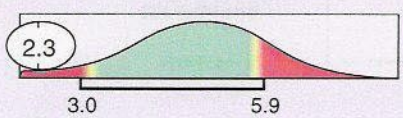
Cysteine

Ref Range mg/dL

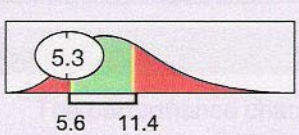


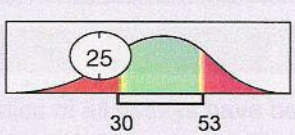
Sulphate

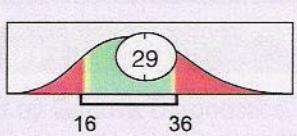
Ref Range mg/dL

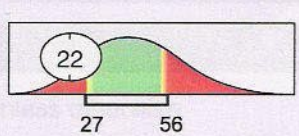


Glutathione Conjugation	Glycine Conjugation	Sulfation	Glucuronidation
Acetaminophen Mercapturate % Recovery	Salicyluric Acid % Recovery	Acetaminophen Sulfate % Recovery	Acetaminophen Glucuronide % Recovery

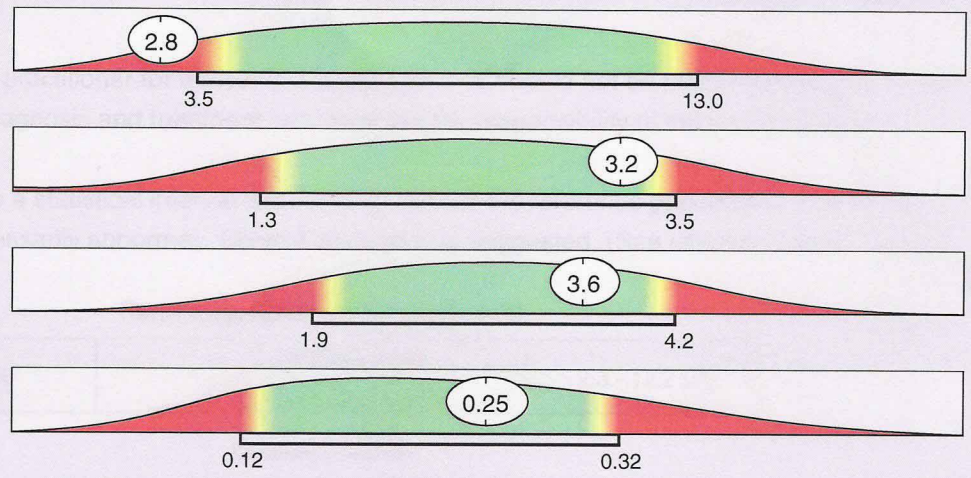




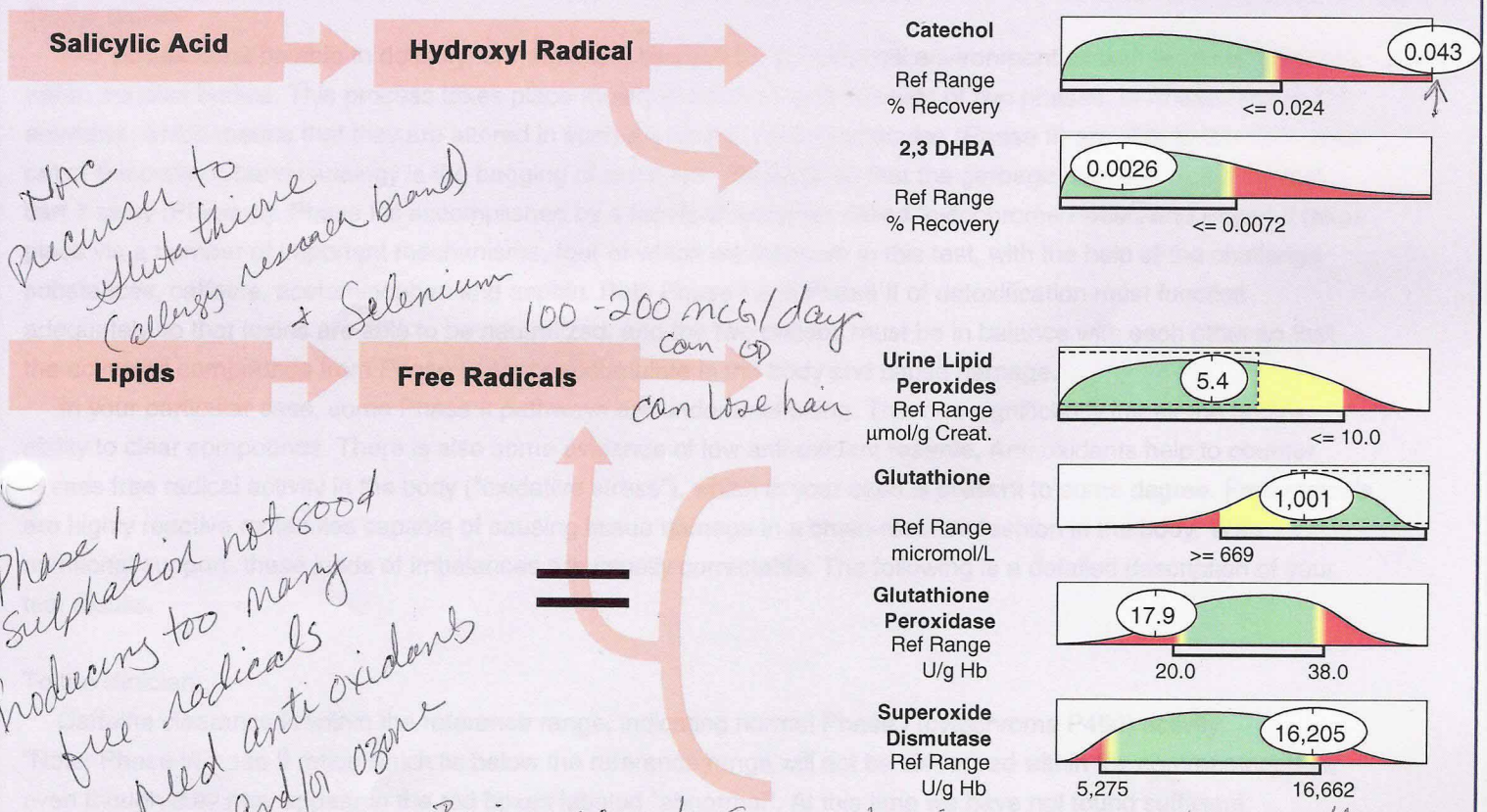




Ratios



Free Radical Markers



NAC precursor to Glutathione (Callegy research brand) + Selenium 100-200 mcg/day can OD can lose hair

Phase 1 Sulphation not good Producing too many free radicals need anti oxidants and/or ozone

Bring rags to Sauna + wipe sweat frequently

Total Urine Volume

Cres cycle stuck?

mL per 10 hours: 700

Ozone Therapy Glutathione IVS? Cream?

Commentary

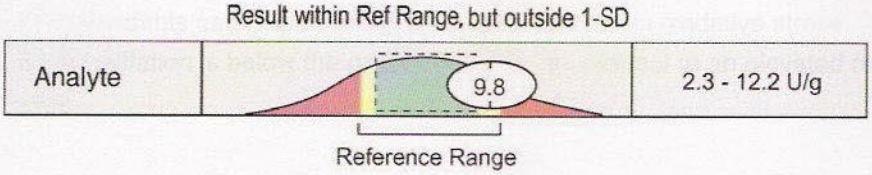
The performance characteristics of all assays have been verified by Genova Diagnostics, Inc. Unless otherwise noted with ◆ as cleared by the U.S. Food and Drug Administration, assays are For Research Use Only.

Be well Clinic has infrared Sauna

Commentary

Commentary is provided to the practitioner for educational purposes, and should not be interpreted as diagnostic or treatment recommendations. Diagnosis and treatment decisions are the responsibility of the practitioner.

One Standard Deviation (1 S.D.) is a statistical interval representing 68% of the reference population. Values between 1 and 2 S.D. are not necessarily abnormal. Clinical correlation is suggested. (See example below)



To the patient:

Our bodies must be able to detoxify, or neutralize, toxins from the external environment as well as those produced within our own bodies. This process takes place mostly in the liver, and consists of two phases. In Phase I toxins are activated, which means that they are altered in such a way that carrier molecules (Phase II) are able to transport them out of the body. A handy analogy is the bagging of our trash (Phase I), so that the garbage man can pick it up and cart it away (Phase II). Phase I is accomplished by a family of enzymes called "cytochrome P450", and Phase II takes place via a number of important mechanisms, four of which we measure in this test, with the help of the challenge substances, caffeine, acetaminophen and aspirin. Both Phase I and Phase II of detoxification must function adequately so that toxins are able to be neutralized, and the two phases must be in balance with each other so that the activated compounds from Phase I cannot accumulate in the body and cause damage.

In your particular case, some Phase II pathways are underfunctioning. This can significantly impair the body's ability to clear compounds. There is also some evidence of low anti-oxidant reserve. Anti-oxidants help to counter excess free radical activity in the body ("oxidative stress"), which in your case is present to some degree. Free radicals are highly reactive molecules capable of causing tissue damage in a chain-reaction fashion in the body. With nutritional support, these kinds of imbalances are usually correctable. The following is a detailed description of your test results.

To the clinician:

Caffeine clearance is within the reference range, indicating normal Phase I (cytochrome P450) activity.
"Note: Phase I/Phase II ratios which lie below the reference range will not be discussed within the commentary text, even though they may appear in the red boxes labeled "abnormal". At this time we have not found sufficient information to consider them clinically significant."

Among the Phase II pathways, glutathione conjugation, glucuronidation, and glycine conjugation are underfunctioning. These deficits can result in poor detoxification of many compounds in the body, particularly xenobiotics, many medications and bile acids. This may reflect nutritional inadequacies and/or genetic uniqueness. Any value above the reference range reflects upregulated activity through that pathway, likely due to genetic influence or substrate exposure. Continued provision of Phase II nutrients is recommended.

Elevations of either catechol or 2,3 DHBA indicate hydroxyl radical activity in the body. This may reflect excess free radical production, inadequate antioxidants, insufficient nutrient cofactors for SOD, and/or excess iron or copper in the body. Free radical damage is thought to underlie many pathological processes such as atherosclerosis, aging,

Commentary

chronic fatigue syndrome, cancer, cardiovascular disease, Parkinson's disease, and Alzheimer's.

Glutathione peroxidase (GSHPx) was found depressed. GSHPx represents another important front-line enzyme of the antioxidant defense team, using glutathione and selenium to help dispose of hydrogen peroxide and lipid peroxides. Low levels of GSHPx are associated with a higher risk of oxidative damage in the body, and have been observed in disorders associated with free radicals, including alcoholism, cancer, atherosclerosis, rheumatoid arthritis and cataracts, as well as selenium insufficiency.

Reduced glutathione and superoxide dismutase are both within the reference range. Maintaining levels of glutathione, selenium and all antioxidants can help to shift the balance away from oxidative stress.

The Phase I/Phase II ratio for sulfation is below the reference range. In contrast to an elevated ratio, this is not considered clinically significant.