

# Live Case Recordings #3 - Case Documents





History of galibladder attacks or stones	• 0	0	C
lave you had your galfbladder removed?	○ Yes	O No	0
Category VI	0 1		3
Acne and unhealthy skin			Q
excessive hair loss			Q
everall sense of bloating	0 0		Q
edily swelling for no reason	• 0	0	C
ormone imbalances	0 0	0	Q
Veight gain	0 0	0	C
oor bowel function	0 0	0	¢
xcessively foul-smelling sweat	0 0	0	
ategory VII	0 1	2	3
rave sweets during the day	0 0	0	$\subset$
ritable if meals are missed	0 0	0	
epend on coffee to keep going/get started	0 0	0	C
et light-headed if meals are missed	0 0	0	C
ating relieves fatigue	0 0		C
eel shaky, jittery, or have tremors	0 0		c
gitated, easily upset, nervous	0 0		c
oor memory/forgetful	0 0		è
lurred vision	0 0		Č
ategory VIII	0 1		2
atigue after meals	0 0		d
rave sweets during the day	0 0		c
ating sweets does not relieve cravings for sugar	0 0		(
ust have sweets after meals			
Vaist girth is equal or larger than hip girth	• 0		
requent urination	0 0		
ncreased thirst and appetite	0 0		
ifficulty losing weight	0 0		_
ategory IX	0 1	2	3
annot stay asleep			9
rave salt			
low starter in the morning	0 0		•
Afternoon fatigue	0 0		
lizziness when standing up quickly	0 0		
Afternoon headaches	• 0		
feadaches with exertion or stress	• 0	0	
Yeak nails	0 0	0	(
ategory X	0 1		3
annot fall asleep			
erspire easily	• 0	0	
Inder high amount of stress	0 0		
Veight gain when under stress	0 0	0	
Vake up tired even after 6 or more hours of sleep	0 0	0	6
xcessive perspiration or perspiration with little or no activity	• 0	0	
ategory XI	0 1	2	2
dema and swelling in ankles and wrists	• 0	0	
luscle cramping	• 0	0	
oor muscle endurance	0 0	0	
requent urination	0 0	0	<
requent thirst	0 0	0	
rave salt	0 0		•
bnormal sweating from minimal activity	• 0	0	



nability to hold breath for long periods		0	0	O
hallow, rapid breathing	0	~	0	0
ategory XII	0	1	2	3
ired/sluggish	0	0	0	0
eel cold?hands, feet, all over	0	0	0	
lequire excessive amounts of sleep to function properly	0	0	0	
ncrease in weight even with low calorie diet	0		0	0
tain weight easily	0	0	0	_
	0	0		
ifficult, infrequent bowel movements				
epression/lack of motivation		0		0
forning headaches that wear off as the day progresses	0	0	0	
outer third of eyebrow thins			0	C
hinning of hair on scalp, face, or genitals, or excessive hair loss	0			0
rryness of skin and/or scalp			0	
fental sluggishness				0
ategory XIII	0	1	2	3
leart palpitations		0	0	
nward trembling	0	0	0	С
ncreased pulse even at rest	•			
ervous and emotional	0	0	0	0
nsomnia	0	0	0	0
light sweats	0	0	0	0
officulty gaining weight	•	0	0	0
ategory XIV	0	1	2	3
liminished sex drive	0	0	0	C
tenstrual disorders or lack of menstruation	•	0	0	
ncreased ability to eat sugars without symptoms	•	0	0	0
ategory XV	0	1	2	3
ncreased sex drive	•	0	0	
olerance to sugars reduced	0	0	0	C
Splitting" - type headaches	•	0	0	0
ategory XVI (Males Only)	0	1	2	3
frination difficulty or dribbling		0		
requent urination	0	0	0	0
tain inside of legs or heels	•	0	0	C
eeling of incomplete bowel emptying	0	0	0	0
eg twitching at night	•	0	0	0
ategory XVII (Males Only)	0	1	2	3
ecreased libido	0	0	0	0
ecreased number of spontaneous morning erections	0	0	0	C
decreased fullness of erections	0	0	0	C
ifficulty maintaining morning erections	0	0	0	C
pells of mental fatigue	0	0	0	0
nability to concentrate	0	0	0	С
pisodes of depression	0	0	0	0
fuscle soreness	0	0	0	0
ecreased physical stamina	0	0	0	
Inexplained weight gain	0	0	0	
ncrease in fat distribution around chest and hips		0	0	
weating attacks		0	0	
fore emotional than in the past		0	0	
The second secon	0	1	2	3
ategory XVIII (Menstruating Females Only)				



Extended menstrual cycle (greater than 32 days)	0	Yes	0	No
Shortened menstrual cycle (less than 24 days)	0	Yes	0	No
Pain and cramping during periods	0	0	0	0
Scarty blood flow	0	0	0	0
Heavy blood flow	0	0	0	0
Breast pain and swelling during menses	0	0	0	0
Pelvic pain during menses	0	0	0	0
Irritable and depressed during menses	0	0	0	0
Acne	0	0	0	0
Facial hair growth	0	0	0	0
Hair loss/thinning	0	0	0	0
Category XIX (Menopausal Females Only)	0	1	2	3
How many years have you been menopausal?	-	-		
Since menopause, do you ever have uterine bleeding	0	Yes	years	
Hot flashes	_	0	0	0
Mental fogginess	0			
	0	0	0	0
Disinterest in sex	0	0	0	0
Mood swings	0	0	0	0
Depression	0	0	0	0
Painful intercourse	0	0	0	0
Shrinking breasts	0	0	0	0
Facial hair growth				
Acne				
Increased vaginal pain, dryness, or itching			0	0
How many alcoholic beverages do you consume per week?  1-2 How many caffeinated beverages do you consum	ne per da	?		
How many times do you eat out per week?	seeds?			
1-2 How many times a week do you eat fish?  2-3 How many times a week do you workout?				
List the three worst foods you eat during the average week: black tea				
List the three healthiest foods you eat during the average week: meat , starch , vegetables				
Do you smoke? Yes   No				
Do you currently have mercury amalgams (fillings) O Yes   O No				
Have you had mercury amalgam fillings removed in the past? Yes   O No				
Rate your levels of stress on a scale of 1-10 during the average week: [Select]				
Please list any medications you currently take and for what conditions:				
WP Thyroid 48.5 mg for hypothyroidism				
Please list any natural supplements you currently take and for what conditions:				
Btu-fu-lu-u-u-u-u				$\overline{}$
B complex for low energy Magnesium citrate or glycinate for constipation Betaine HCl for poor digestion Desiccated beef liver				
				$\overline{}$



Indicate the frequency with which you eat the following foods by marking in the appropriate box. FREQUENT= at least once a day, OFTEN= several times per week, OCCASIONAL= once a week or less, SELDOM= once or twice a month or less, NEVER= total avoidance.					
	Frequent	Often	Occas.	Seldom	Never
Alcoholic Beverages	0	0	0	0	0
Eat Out at Restaurants	0	0		0	
Pastries, Cookies, Candy, Ice Cream and Other Sweets	0	0	0	0	0
White Flour: Bread, Pasta, Pancakes, Crackers, Muffins, etc	0			0	0
Add Sugar to Coffee, Tea, Cereals, or Other Foods	0	0	0	0	0
Sodas or Soft Drinks	0	0	0	0	0
Diet Soft Drinks	0	0	0	0	0
Fruit Juices	0	0	0	0	•
Artificial Sweeteners (NutraSweet, Saccharin, etc)	0	0	0	0	0
Natural Sweeteners (Honey, Maple Syrup, Agave, etc)	0	0	0	0	0
Breakfast Cereals (Hot or Cold)	0	0	0	0	0
Packaged Foods:Chips, Crackers, Puffs, Pretzels	0	0	0	0	0
Vegetable Oils (Sunflower, Safflower, Canola, Corn, Soy)	0	0	0	0	0
Margarine or Tub Vegetable Oil Spreads	0	0	0	0	•
Deep-Fried Foods	0	0	0	0	•
Dive Oil	0	0	0	0	0
Avocados	0	0	0	0	0
Saturated Fats (Butter, Ghee, Lard, Coconut, Palm, Tallow)	•	0	0	0	0
Fatty Fish (Salmon, Mackerel, Sardines, Herring)	0	0	•	0	0
Nuts and Seeds, Nut/Seed Butters	0	0	0	0	0
Pasteurized Dairy (Check: Nonfat, Low-Fat, Whole)	0	0	0	0	0
Raw Dairy Products (Check: Nonfat, Low-Fat, Whole)	0	0	0	0	0
Fermented Dairy Products (Yogurt, Kefir, Cheese)	0	0	0	0	•
eggs (Check: Free-Range, Pastured, Organic, or Conventional)	0	0	0	0	0
Poultry or Fowl (Chicken, Turkey, Duck, etc)	0	0	0	0	0
Pork	0	0	0	0	0
Red Meat (Beef, Lamb)	0	0	0	0	0
Processed Meats (Bacon, Sausage, Salami, Ham, etc)	0	0	0	0	0
Organ Meats (Liver, Kidney, Sweetbreads, etc)	0	0	0	0	0
Soy Products (Tofu, Tempeh, Soy Milk, Edamame)	0	0	0	0	0
Salads, Uncooked Vegetables	0	0	0	0	0
Fermented Vegetables (Sauerkraut, Kim Chi, etc)	0	0	0		0
Non-Starchy Vegetables (Greens, Squash, Carrots)	0	0	0	0	0
Starchy Vegetables (Potatoes, Yams, Sweet Potatoes)		0	0	0	0
resh Fruits	0	0	0	0	0
Beans and Legumes	0	0	0	0	
Whole Grains and Whole Grain Breads (Wheat, Gluten)	0	0	0	0	
Alternative Grains (Quinoa, Buckwheat, Teff, etc)	0	0	0	0	
ferbs and Spices (Fresh or Dried)	0	0	0	0	0
Chocolate (Check: Milk or Dark)	0	0	0	0	•
Herbal Teas	0	0	0	0	_
Coffee (Check: Regular or Decaffeinated)	0				0
Caffeinated Teas (Check: Salack or Green)		0	0	0	~
Salt (Check: I lodized or Sea Salt)	0	0	0	0	0
oan fruser 🗀 looiseo o. 🦰 sea sed)	•	0	0	0	0
Mease indicate if you are on any special diet:					
Ovo-lacto-vegetarian Vegetarian			☐ Other		
☐ Diabetic ADA ☐ Vegan					



Dairy-free Paleo							
☑ Gluten-free ☐ GAPS							
If you checked any, how long have you been on this diet? About a year							
If you checked any, how strictly are you on it? For example: 80/20, or all the time, except certain holidays All the time							
Please check any and all boxes below that describe your current eating styles:							
☐ Eat while driving, in front of a TV or computer, or multi-tasking	☐ Fast eater						
☐ Irregular eating habits (eating times, portion sizes, etc)	☐ Eat too much						
Eat late at night	☐ Eat in the middle of the night						
☑ Time constraints	☐ Travel Frequently						
☐ Eat more than 50% meals away from home	<ul> <li>Don't care to cook, or never learned</li> </ul>						
Confused about nutritional advice	<ul> <li>Don't really enjoy meals; eat mostly for fuel or calories</li> </ul>						
<ul> <li>Eat lots of pre-made or pre-packaged foods and snacks</li> </ul>	<ul> <li>Lack of choice of healthy foods in neighborhood</li> </ul>						
<ul> <li>Don't eat breakfast or dinner together as a family unit</li> </ul>	<ul> <li>Don't share same meals, even if seated together at table (special dietary needs and/or food preferences)</li> </ul>						
☐ Emotional eater (when sad, bored)	<ul> <li>Have a negative relationship to food</li> </ul>						
☐ Diet often for weight control	<ul> <li>Struggle with eating issues or history of eating disorders</li> </ul>						
Eat too much or too little under stress							
Additional Comments							
	eat mostly what I eat, but at college with my roommate, I am often the only one we will eat together. I have a big appetite, but I do not mind skipping meals. Rather,						
eating small meals is very hard for me.							
	wn with others for a satisfying meal. I enjoy reading about balanced information toward the importance and synergism of the foods we crave. I am still somewhat						
confused about food, but I try not to stress about it and just do my be	est. However, the past few years have been a little tough for me because of the						



The food we eat is probably the single-most important factor determining whether we are healthy or iii. The goal of this survey is not to pass judgment, but instead to get an accurate idea of what you're eating and how it may (or may not) be contributing to your health problems. The more accurate and honest you can be in your responses, the more I will be able to help you make choices that support health and well-being. 1) Describe a typical breakfast (including what time you eat it). If I eat breakfast, it will be something AIP friendly. A common meal for me would be a small sweet potato with some occount oil, 6 oz of beef or bison, and some cooked vegetables. This would occur around 8:00 AM. For the past few months, however, I have been eating less frequently to see how I might feel. After giving it a try for a while, it became easy, and I started to feel okay without breakfast. Since around August, I have not had breakfast very often. 2) Do you have a morning snack? O Yes O No Sometimes Sometimes I will have a cup or two of black tea anywhere between 10 AM and 12 PM. I have had it later than this, but it gives me trouble sleeping at later times. 3) Describe a typical lunch (including what time you eat it). Lunch would be the same as breakfast, with about 6 oz of meat and a portion of carbohydrates and sometimes some added fat in the form of coconut oil. Sometimes the meat is wild caught salmon, and sometimes I will have another AIP friendly starch like plantain or butternut squash. This would occur around 12 or 1 PM There have been periods lately when I skip lunch as well. I understand most people with HPA axis dysregulation feel better with more frequent meals, but after becoming used to eating less frequently, I have begun to enjoy it. Waiting to eat seems to sometimes be the only way to get much done because I usually do not feel well with food on my stomach, and eating quality food frequently requires a lot of time in the kitchen. I am happy to wait until dinner to eat if I need to, but I am open to hearing how a different meal frequency may be beneficial for me. 4) Do you have an afternoon snack? O Yes 💿 No O Sometimes 5) Describe a typical dinner (including what time you eat it). Dinner is typically the same as breakfast and dinner, but I miss breakfast and/or lunch, I typically with include that amount of food with the portion I would have already been eating. I enjoy a larger dinner than other meals, and it is the only time I can afford to cook and clean much. I eat dinner usually between 6:30 and 8:30 PM. 6) Do you eat a bedtime snack? O Yes O No O Sometimes



7) Do you eat dessert after: \( \) lunch? \( \) dinner? \( \) both? \( \) "I don't eat dessert"  Please describe what you eat for dessert
8) Do you wake up hungry in the middle of the night? Yes Sometimes If so, do you eat? What do you eat?
Additional Comments
I experiment a lot with my eating habits, but I recognize I have a very limited amount of knowledge on what is best for me. I just try to do the best I can with what I know. My framework for thinking about dietary choices comes mainly from Chris Kresser's blog and Paul and Shou-Ching Jaminet's book, The Perfect Health Diet, so I generally follow those recommendations. I seem to feel better with a little more carbohydrates recommended by either, though, so my macronutrient ratios are typically roughly 40-50% carbohydrates, 35-45% fat, and 15-25% protein.  I also try not to eat a large amount of fiber because it seems to make me more bloated and constipated. I also rarely eat fermented foods because I'm not sure if they make me feel worse digestively, but if I do it is in the form of saur kraut.  Most of the time when I eat, I feel bloated after, and a meal will often cause my psoriasis to itch more and cause me to see more eye floaters. When I do not eat, a lot of my symptoms feel better especially around midday. I often feel calmer and less depressed and do not experience digestive discomfort without meals early in the day.



ENVIRONMENTAL EXPOSURE			
Please answer the following questions:			
Please answer the following questions:	Von	No	Unknown
1) Do you have exposure to the interior building of a water damaged building and/or microbial growth? If yes, please answer the next three (3) questions:			Onknown
a. Do you have samples/evidence of spore or genus and species of fungus (air test, ERMI test, etc.)	$\circ$	$\circ$	0
b. Is there visible microbial growth (mold)?	$\circ$	$\circ$	0
c. Is there a presence of musty smells?	$\circ$	$\circ$	0
2) Do you remember a tick bite occurring before your illness beginning? If yes, please answer the next two (2) questions:	0	$\circ$	$\circ$
a. Did you have an unexplained rash after the bite?	$\circ$	$\circ$	0
b. Did you experience flu-like illness after the bite?	$\circ$	0	$\circ$
3) Have you had a brown recluse or other poisonous spider bite? If yes:	$\circ$	0	$\circ$
a. Did you experience flu-like illness after the bite?	$\circ$	$\circ$	$\circ$
4) Did you become ill after eating fish?	0	0	$\circ$
5) Did you become ill after exposure to a body of fresh water?	0	0	$\circ$
6) Did you become ill after exposure to the ocean during a 'Red Tide' or other bloom?	$\circ$	$\circ$	0
7) Did you become ill after exposure to an estuary fish kill?	$\circ$	$\circ$	0
8) Did you become ill after exposure to a closed shell fish bed area?	$\circ$	$\circ$	0
ASSOCIATED ILLNESSES			
Please mark yes or no:			
	Yes		No
Tick borne Illness	0		0
Lyme Disease	0		0
Fibromyalgia	0		0
Chronic Fatigue Syndrome	0		0
Gulf War Syndrome	0		0
Chemical Sensitivity	0		0
Sick Building Syndrome	0		0
Fungus or Mycotoxicosis	$\circ$		0
Depression	0		0
Chronic Soft Tissue Injury	$\circ$		0
Irritable Bowel Syndrome	$\circ$		0
Bacteria	$\circ$		0
Bell's Palsy	$\circ$		0
Pfiesteria	$\circ$		0
Sensory Neural Hearing Loss			



	•	0
Ciguatera Seafood Poisoning	0	0
Any Learning Disability	0	0
Autism	0	0
Attention Deficit Disorder	•	0
Charcot Marie Tooth Syndrome	0	0
Alzheimer's Disease	0	0
Parkinson's Disease	0	0
Amyotrophic Lateral Sclerosis	0	0
Multiple Sclerosis	0	0
Diabetes	0	0
Ocular Disease (e.g., cataract)	0	0
Retinal Disease (e.g., glaucoma)	0	0
Low Vision or Blindness	0	0
Another Condition Involving Neurological Function	0	0



#### **HEALTH HISTORY QUESTIONS**

 Please list the following Education:

Profession: Student, now interning as a social worker at the Salvation Army

Interests (sports, hobbies, etc.):

I love almost all physical activities. I love to work out and play sports. I grew up skateboarding and wakeboarding rode on the junior pro wakeboard tour as an 18 year old. In school, I played baseball, football, and ran track.

I am interested also in non-sport activities like hiking and camping. Some of my interests are not physical at all. I enjoy to read and write and have learned to love cooking ever since I learned diet changes may help me feel better again.

2) List your chief complaints in order of your importance:

Fatigue
Depression
Psoriasis
Moderate to severe eye floaters
Constipation and bloating
Ringing in ears and ear fullness
Acne breakouts

The aggregate of these symptoms is much more bothersome than the sum of them, and properties emerge from their collection that would not be present in any one symptoms experienced as an isolated incident. They also compound one another.

3) List all diagnoses given to you in a timeline sequence and your personal opinions about them.

Young child- allergies and ear infections: These definitely were issues, but the root cause was never discussed. My adenoids were removed to treat the ear infections. I do not remember much of this. Maybe there was a better route than antibiotics and surgery.

Middle schooler-eczema: It was not severe, so I had very little treatment. I used hydrocortisone cream occasionally. This was a minor problem to me.

Early high school- acne: I wanted to get rid of it, and the dermatologist prescribed antibiotics that I took from freshman to junior year. They worked pretty well, but toward the end of this stent, I became I noticed the antibiotics made my already present constipation even worse. I now view the antibiotics as a big mistake.

\*Major issues started during my senior year of high school.

18 years old, Freshman year of college- Hashimoto's Disease and adrenal fatigue: Seems likely to me. I was very tired; IgG food sensitivities: I agree I had some sensitivities. I do not no if the test is entirely accurate, though.

19 years old, Freshman year of college- Meniere's Disease: I think the diagnosis was most likely right.



4) What's your opinion on what has happened to your health?

I feel sad because I do not know what to do or where to turn. I am not sure what has caused these problems. I can speculate that maybe all the antibiotics or a generally poor diet contributed to my condition. I always felt so energetic and athletic and happy until my senior year of high school, though. It perplexes me, but I do not feel hopeless. I believe all my symptoms seem autoimmune in nature, and I believe because of this common characteristic and the short time in which they came on, their causes are probably the same issues.

5) List any treatments, medications, or supplements that have improved your health.

Dietary changes seem to make a difference. A low carb diet keeps my skin free of acne, but it makes me extremely tired, miserable, and constipated. I diet with more carbohydrates improve my digestive motility, mood, and energy levels and does not necessarily make my skin break out. Avoiding allergens seems to be what most helps my ears, but this is somewhat speculative since I have not reintroduced anything.

B vitamins help me to have more energy. Magnesium glycinate helps motility somewhat. Magnesium citrate helps motility more, but I have been told it is irritating to the digestive system.

Reginokine shots in the jaw and neck may have helped my ear symptoms.

6) List any treatments, medications, or supplements that have caused reactions or decreased your health.

A low carb diet has put in into some pretty miserable states. A vegan diet seemed troublesome too, especially without fat and protein.

7) List in a timeline sequence any medical procedures or surgeries you have had:

Childhood- adenoids removed and tubes in ears twice

18 years old- sinus passages widened and tube put into right eardrum

#### PERSONAL OPINION QUESTIONS

\*Please do not answer "I don't know" to any of these questions.\*

1) Why do you think healthcare practitioners have failed with your case?

I am not sure. I have had some nice doctors who have every intention to help. I have, however, noticed the a trend that many practitioners have little time to sit down and talk. Maybe they have too many cases to pry into each one deeply and become greatly invested.

2) What are you looking for in a healthcare practitioner?

I desire someone who is accessible and willing to give me their time. Even if no practitioner can fix these problems, I want someone to become personally invested in trying. I can pay for a doctor, but I could never pay for a friend who is experiences my circumstances emotionally with me. I do not want a doctor to become depressed or overworked trying to solve my case, but I want a practitioner to be motivated by empathy.

3) What do you consider a realistic window of time to see changes in your health under our care?

6 months to 5 years

4) Are you prepared to pay for the laboratory testing, consulting fees and nutritional supplements that may be required to successfully manage your condition?



Yes
5) On a scale of 1 to 10, how committed are you to recovering your health? 9 Why?
I am only 21 years old. I want to get married and have a family. I want to play sports again. I want to wake up ready for a hard day's work. I want to be engaged in my relationships with energy rather than apathy. I want to stop waking up feeling like I'm not ready for even the smallest challenge. I want to look forward to things again.
6) What obstacles or beliefs, if any, stand in the way of you recovering your health?
I sometimes worry too much about things I cannot fix, which is not healthy. Ironically, sometimes the thing I am worrying about is my health.
7) Are there emotional or psychological issues that may be contributing to your health problems? If so, please explain them briefly.
I sometimes dwell on my sadness. I am learning to recognize the role of suffering in building character, but oftentimes I pity myself.
8) Do you enjoy your work? Do you believe your work contributes to your health problems?
I enjoy the education I am receiving and my internship at the Salvation Army. It is a lot of work sometimes, which is taxing, but I try to keep it in balance by sleeping enough and working on assignments incrementally.
9) Do you have a purpose in life?
Yes, I am a Christian. The Bible explains that God died in our place so that we could have the chance to ask for reconciliation with him without facing a penalty. I didn't deserve his grace, but he was willing to give it. Now, I want to spend my life getting to know him better and obeying him by loving sacrificially as he does. This purpose grounds my existence objectively in something meaningful and glorious. I could not ask for a better purpose. Even in suffering, I know God is there, and if my purpose is too love him and others, no sickness could ever hinder me. I still feel sad at times, and sometimes I find myself in moments of selfishness, but I am always invited to fix my eyes once again on this amazing purpose.
10) Where else do you find support? Friends? Church or religious group? Nature?
I find support in my family, my friends, my cohort, my church, and my mentor. I also find much comfort in music, walking, and nature.
11) How did you feel about answering all of these questions and the case review process?
Wow, thank you for listening to me. I feel heard and welcomed as a patient.



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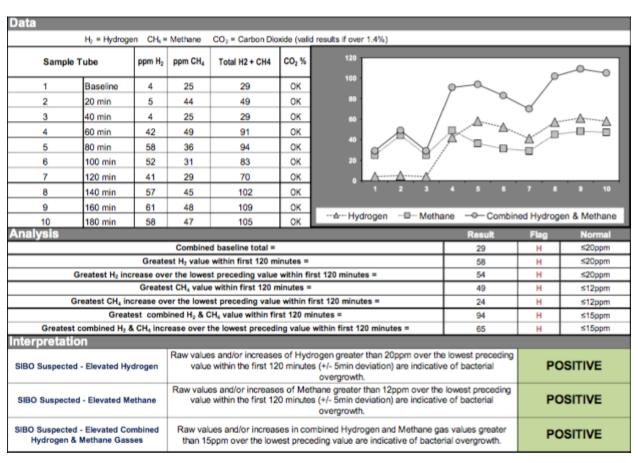


Marker	Value	Functional Range	Lab Range
Glucose	89	75 - 90	65 - 99
Hemoglobin A1c	5.5	4.4 – 5.4	4.8 - 5.6
Uric Acid	3.4	3.7 – 6.0	3.7 - 8.6
BUN	15	13 – 18	6 - 20
Creatinine	0.99	0.85 - 1.1	0.76 - 1.27
BUN/Creatinine Ratio	15	8 – 19	8 - 19
eGFR if Non-African American	108		> 59
eGFR if African American	125		> 59
Sodium	140	135 – 140	134 - 144
Potassium	4.6	4.0 – 4.5	3.5 - 5.2
Chloride	99	100 – 106	97 - 108
C02	25	25 – 30	18 - 29
Calcium	9.6	9.2 – 10.1	8.7 - 10.2
Parathyroid Hormone, Intact	17	30 - 60	15 - 65
Phosphorus	3.8	3.0 – 4.0	2.5 - 4.5
Magnesium	2.0	2.0 - 2.6	1.6 - 2.3
Protein, total	7.1	6.9 – 7.4	6.0 - 8.5
Albumin	5.0	4.0 – 5.0	3.5 - 5.5
Globulin	2.1	2.4 - 2.8	1.5 - 4.5
A/G ratio	2.4	1.5 – 2.0	1.1 - 2.5
Bilirubin, total	0.4	0.1 – 1.2	0.0 - 1.2
Alkaline Phosphatase	119	42 – 107	39 - 117
LDH	135	140 - 180	121 - 224
AST	28	0 - 25	0 - 40
ALT	39	0 - 26	0 - 44
GGT	15	0 - 29	0 - 65
TIBC	316	275 – 425	250 - 450
UIBC	197	175 - 350	111 - 343
Iron	119	40 – 135	38 - 169
Iron saturation	38	17 – 45	15 - 55
Ferritin	134	30 - 200	30 - 400
Vitamin B-12	1258	450 – 2000	211 - 946
Folate, Serum	15.9	> 5.0	> 3.0
Calcitriol (1,25 di-OH Vitamin D)	119	19.9 - 79.3	19.9 - 79.3
Vitamin D, 25-hydroxy	89.7	35 - 60	30.0 - 100.0
Cholesterol, total	208	150 - 220	100 - 199
Triglycerides	40	50 – 100	0 - 149
HDL	101	55 – 85	> 39
LDL	99	0 - 140	0 - 99
T. Chol / HDL Ratio	2.1	< 3	0 - 5.0
Triglycerides / HDL Ratio	0.40	< 2	< 3.8



Marker	Value	Functional Range	Lab Range
CRP-hs	0.25	< 1.0	0.00 - 3.00
Homocysteine	5.6	< 7.0	0.0 - 15.0
TSH	4.270	0.5 - 2.0	0.45 - 4.50
T4, total	3.6	6.0 – 12	4.5 - 12
T3 Uptake	32	30 - 38	24 - 39
T3, Total	108	100 – 180	71 - 180
T3, Free	3.5	2.5 - 4.0	2 - 4.4
T4, Free	0.96	1 - 1.5	0.82 - 1.77
Reverse T3	13.5	9 - 21	9.2 - 24.1
Thyroid – TPO Ab	8		0 - 34
Thyroid – TGA	<1.0		0 - 0.9
Copper	83	81 - 157	72 - 166
Zinc	97	64 - 126	56 - 134
Zinc / Copper Ratio	1.17	> 0.85	
Serum Methylmalonic Acid (MMA)	118	< 300	0 - 378
WBC	3.7	5.0 - 8.0	3.4 - 10.8
RBC	4.83	4.4 – 4.9	4.14 - 5.8
Hemoglobin	14.0	14 - 15	12.6 - 17.7
Hematocrit	42.7	40 - 48	37.5 - 51.0
MCV	88	85 – 92	79 - 97
MCH	29.0	27.7 – 32.0	26.6 - 33.0
MCHC	32.8	32 – 35	31.5 - 35.7
RDW	15.0	11.5 – 15.0	12.3 - 15.4
Platelets	255	150 – 379	150 - 379
Neutrophils	43	40 – 60	
Lymphocytes	44	25 – 40	
Monocytes	8	4.0 – 7.0	
Eosinophils	4	0.0 - 3.0	
Basophils	1	0.0 - 3.0	
Anticardiolipin Ab, IgG, Qn	<9		0 - 14
Anticardiolipin Ab, IgM, Qn	<9		0 - 12
Anticardiolipin Ab, IgA, Qn	<9		0 - 11
TGF-b1	4340		344 - 2382
ADH	<0.8		0 - 4.7
Osmolality	285		275 - 295
MMP-9	168		< 984
MSH	28		0 - 40







BACTERIOLOGY CULTURE					
Expected/Beneficial flora	Commensal (Imbalanced) flora	Dysbiotic flora			
3+ Bacteroides fragilis group	2+ Alpha hemolytic strep				
4+ Bifidobacterium spp.	2+ Beta strep, not group A or B				
3+ Escherichia coli	2+ Pseudomonas aeruginosa				
1+ Lactobacillus spp.					
NG Enterococcus spp.					
4+ Clostridium spp.					
NG = No Growth					

#### **BACTERIA INFORMATION**

Expected /Beneficial bacteria make up a significant portion of the total microflora in a healthy & balanced GI tract. These beneficial bacteria have many health-protecting effects in the GI tract including manufacturing vitamins, fermenting fibers, digesting proteins and carbohydrates, and propagating anti-tumor and anti-inflammatory factors.

Clostridia are prevalent flora in a healthy intestine. Clostridium spp. should be considered in the context of balance with other expected/beneficial flora. Absence of clostridia or over abundance relative to other expected/beneficial flora indicates bacterial imbalance. If C. difficile associated disease is suspected, a Comprehensive Clostridium culture or toxigenic C. difficile DNA test is recommended.

Commensal (Imbalanced) bacteria are usually neither pathogenic nor beneficial to the host GI tract. Imbalances can occur when there are insufficient levels of beneficial bacteria and increased levels of commensal bacteria. Certain commensal bacteria are reported as dysbiotic at higher levels.

Dysbiotic bacteria consist of known pathogenic bacteria and those that have the potential to cause disease in the GI tract. They can be present due to a number of factors including: consumption of contaminated water or food, exposure to chemicals that are toxic to beneficial bacteria; the use of antibiotics, oral contraceptives or other medications; poor fiber intake and high stress levels.

YEAST CULTURE				
Normal flora	Dysbiotic flora			
No yeast isolated				

#### MICROSCOPIC YEAST

Result: Expected:

None

None - Rare

The microscopic finding of yeast in the stool is helpful in identifying whether there is proliferation of yeast. Rare yeast may be normal; however, yeast observed in higher amounts (few, moderate, or many) is abnormal.

#### YEAST INFORMATION

Yeast normally can be found in small quantities in the skin, mouth, intestine and mucocutaneous junctions. Overgrowth of yeast can infect virtually every organ system, leading to an extensive array of clinical manifestations. Fungal diarrhea is associated with broad-spectrum antibiotics or alterations of the patient's immune status. Symptoms may include abdominal pain, cramping and irritation. When investigating the presence of yeast, disparity may exist between culturing and microscopic examination. Yeast are not uniformly dispersed throughout the stool, this may lead to undetectable or low levels of yeast identified by microscopy, despite a cultured amount of yeast. Conversely, microscopic examination may reveal a significant amount of yeast present, but no yeast cultured. Yeast does not always survive transit through the intestines rendering it unviaible.



#### PARASITOLOGY/MICROSCOPY

#### Sample 1

None Ova or Parasites

#### Sample 2

None Ova or Parasites

#### Sample 3

None Ova or Parasites

#### PARASITOLOGY INFORMATION

Intestinal parasites are abnormal inhabitants of the gastrointestinal tract that have the potential to cause damage to their host. The presence of any parasite within the intestine generally confirms that the patient has acquired the organism through fecal-oral contamination. Damage to the host includes parasitic burden, migration, blockage and pressure. Immunologic inflammation, hypersensitivity reactions and cytotoxicity also play a large role in the morbidity of these diseases. The infective dose often relates to severity of the disease and repeat encounters can be additive.

There are two main classes of intestinal parasites, they include protozoa and helminths. The protozoa typically have two stages; the trophozoite stage that is the metabolically active, invasive stage and the cyst stage, which is the vegetative inactive form resistant to unfavorable environmental conditions outside the human host. Helminths are large, multicellular organisms. Like protozoa, helminths can be either free-living or parasitic in nature. In their adult form, helminths cannot multiply in humans.

In general, acute manifestations of parasitic infection may involve diarrhea with or without mucus and or blood, fever, nausea, or abdominal pain. However these symptoms do not always occur. Consequently, parasitic infections may not be diagnosed or eradicated. If left untreated, chronic parasitic infections can cause damage to the intestinal lining and can be an unsuspected cause of illness and fatigue. Chronic parasitic infections can also be associated with increased intestinal permeability, irritable bowel syndrome, irregular bowel movements, malabsorption, gastritis or indigestion, skin disorders, joint pain, allergic reactions, and decreased immune function.

In some instances, parasites may enter the circulation and travel to various organs causing severe organ diseases such as liver abscesses and cysticercosis. In addition, some larval migration can cause pneumonia and in rare cases hyper infection syndrome with large numbers of larvae being produced and found in every tissue of the body.

One negative parasitology x1 specimen does not rule out the possibility of parasitic disease, parasitology x3 is recommended. This test is not designed to detect Cyclospora cayetanensis or Microsproridia spp.

	GIARDIA/CRYPTOSPORIDIUM IMMUNOASSAY						
	Within	Outside	Reference Range	Giardia duodenalis (AKA intestinalis and lamblia) is a protozoan that infects the small intestine and			
Giardia duodenalis	Neg		Neg	is passed in stool and spread by the fecal-oral route. Waterborne transmission is the major source of giardiasis.			
Cryptosporidium	Neg		Neg	Cryptosporidium is a coccidian protozoa that can be spread from direct person-to-person contact or waterborne transmission.			



	DIGESTION /ABSORPTION					
	Within	Outside	Reference Range	Elastase findings can be used for the diagnosis or the exclusion of exocrine pancreatic		
Elastase	> 500		> 200 μg/mL	insufficiency. Correlations between low levels and chronic pancreatitis and cancer have been reported. Fat Stain: Microscopic determination		
Fat Stain	None		None - Mod	of fecal fat using Sudan IV staining is a qualitative procedure utilized to assess fat absorption and to detect steatorrhea. Muscle		
Muscle fibers	None		None - Rare	fibers in the stool are an indicator of incomplete digestion. Bloating, flatulence, feelings of "fullness" may be associated with increase in		
Vegetable fibers	Rare		None - Few	muscle fibers. Vegetable fibers in the stool may be indicative of inadequate chewing, or eating "on the run". Carbohydrates: The presence of		
Carbohydrates	Neg		Neg	reducing substances in stool specimens can indicate carbohydrate malabsorption.		

			INFLAMMATION	
	Within	Outside	Reference Range	Lactoferrin and Calprotectin are reliable markers for differentiating organic inflammation
Lactoferrin	0.8		] < 7.3 μg/mL	(IBD) from function symptoms (IBS) and for management of IBD. Monitoring levels of fecal lactoferrin and calprotectin can play an essential
Calprotectin*	< 10		<= 50 μg/g	role in determining the effectiveness of therapy, are good predictors of IBD remission, and can indicate a low risk of relapse. Lysozyme* is an
Lysozyme*		2020	<= 600 ng/mL	enzyme secreted at the site of inflammation in the GI tract and elevated levels have been identified in IBD patients. White Blood Cells
White Blood Cells	None		None - Rare	(WBC) and <b>Mucus</b> in the stool can occur with bacterial and parasitic infections, with mucosal irritation, and inflammatory bowel diseases such
Mucus	Neg		Neg	as Crohn's disease or ulcerative colitis.

IMMUNOLOGY						
	Within	Outside	Reference Range	Secretory IgA* (slgA) is secreted by mucosal tissue and represents the first line of defense of the GI mucosa and is central to the normal		
Secretory IgA*		31.8	51 - 204 mg/dL	function of the GI tract as an immune barrier.  Elevated levels of slgA have been associated with an upregulated immune response.		



			SHORT CHAIN FATTY AC	CIDS
	Within	Outside	Reference Range	Short chain fatty acids (SCFAs): SCFAs are the end product of the bacterial fermentation
% Acetate	50		40 - 75 %	process of dietary fiber by beneficial flora in the gut and play an important role in the health of the GI as well as protecting against intestinal
% Propionate	23		9 - 29 %	dysbiosis. Lactobacilli and bifidobacteria produce large amounts of short chain fatty acids, which decrease the pH of the intestines and therefore
% Butyrate	25		9 - 37 %	make the environment unsuitable for pathogens, including bacteria and yeast. Studies have shown that SCFAs have numerous implications in
% Valerate	1.8		0.5 - 7 %	maintaining gut physiology. SCFAs decrease inflammation, stimulate healing, and contribute to normal cell metabolism and differentiation. Levels
Butyrate	3.0		0.8 - 4.8 mg/mL	of <b>Butyrate</b> and <b>Total SCFA</b> in mg/mL are important for assessing overall SCFA production, and are reflective of beneficial flora levels and/or
Total SCFA's	12		4 - 18 mg/mL	adequate fiber intake.

	INTESTINAL HEALTH MARKERS						
	Within	Outside	Reference Range	Red Blood Cells (RBC) in the stool may be associated with a parasitic or bacterial infection,			
Red Blood Cells	None		None - Rare	or an inflammatory bowel condition such as ulcerative colitis. Colorectal cancer, anal fistulas, and hemorrhoids should also be ruled out.			
рН		5.8	6 - 7.8	pH: Fecal pH is largely dependent on the fermentation of fiber by the beneficial flora of the gut.			
Occult Blood		Pos	Neg	Occult blood: A positive occult blood indicates the presence of free hemoglobin found in the stool, which is released when red blood cells are lysed.			

	MACROSCOPIC APPEARANCE						
	Appearance	Expected	Color: Stool is normally brown because of pigments formed by bacteria acting on bile introduced into the digestive system from the				
Color	Brown	Brown	liver. While certain conditions can cause changes in stool color, many changes are harmless and are caused by pigments in foods				
Consistency	Soft	Formed/Soft	or dietary supplements. <b>Consistency:</b> Stonormally contains about 75% water and idea should be formed and soft. Stool consisten can vary based upon transit time and war absorption.				



#### **Hormone Testing Summary**

All units are given in ng/mg creatinine

Age

40-60

>60

20-40

40-60

>60

Testosterone

Total DHEA

Production

Range

40-100

30-60

10-40

2500-5500

1700-3500

1000-2500

# 

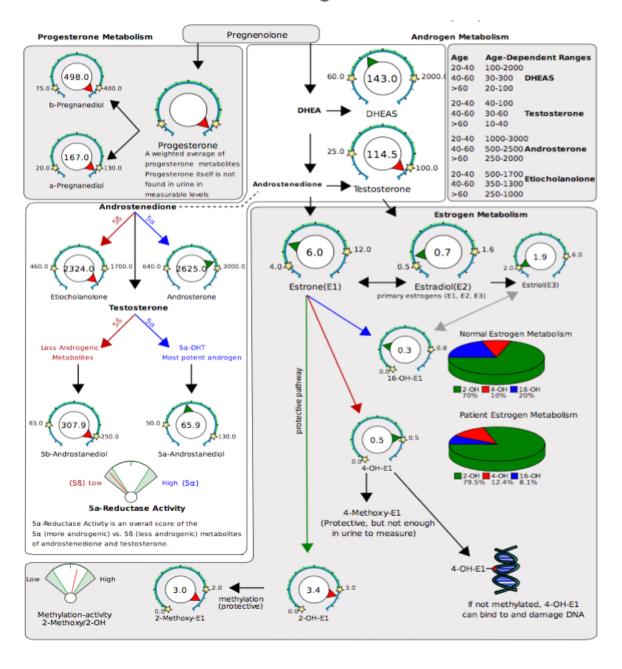
How to read the graphical representation of results

Adrenal Hormones See pages 4 and 5 for a more complete breakdown of adrenal hormones

| 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.0 | 1000.

Category	Test		Result	Units	Normal Range
			Result	Units	Normai Kange
Progesterone					
	b-Pregnanediol	Above range	498.0	ng/mg	75 - 400
	a-Pregnanediol	Above range	167.0	ng/mg	20 - 130
Androgen Me	tabolism				
	DHEAS	Low end of range	143.0	ng/mg	60 - 2000
	Androsterone	High end of range	2625.0	ng/mg	640 - 3000
	Etiocholanolone	Above range	2324.0	ng/mg	460 - 1700
	Testosterone	Above range	114.5	ng/mg	25 - 100
	5a-DHT	Above range	17.5	ng/mg	9 - 16.7
	5a-Androstanediol	Low end of range	65.9	ng/mg	50 - 130
	5b-Androstanediol	Above range	307.9	ng/mg	65 - 250
	Epi-Testosterone	Within range	47.9	ng/mg	25 - 100
Estrogen Met	abolites				
	Estrone(E1)	Within range	6.0	ng/mg	4 - 12
	Estradiol(E2)	Low end of range	0.7	ng/mg	0.5 - 1.6
	Estriol(E3)	Below range	1.9	ng/mg	2 - 6
	2-OH-E1	Above range	3.4	ng/mg	0 - 3
	4-OH-E1	Above range	0.5	ng/mg	0 - 0.5
	16-OH-E1	Within range	0.3	ng/mg	0 - 0.8
	2-Methoxy-E1	Above range	3.0	ng/mg	0 - 2
	2-OH-E2	Within range	0.2	ng/mg	0 - 0.5

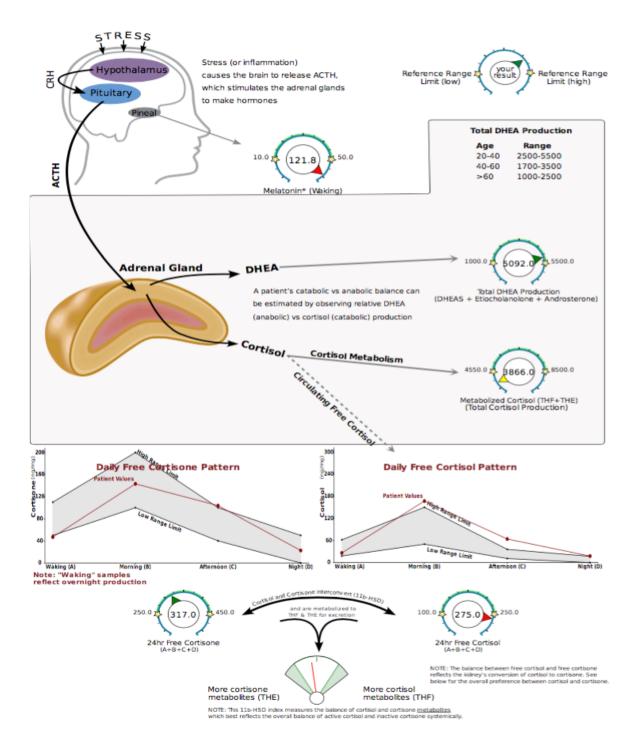






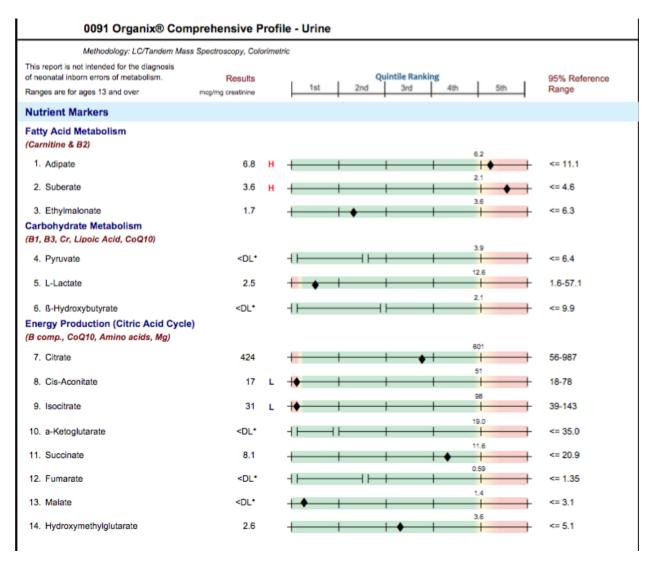
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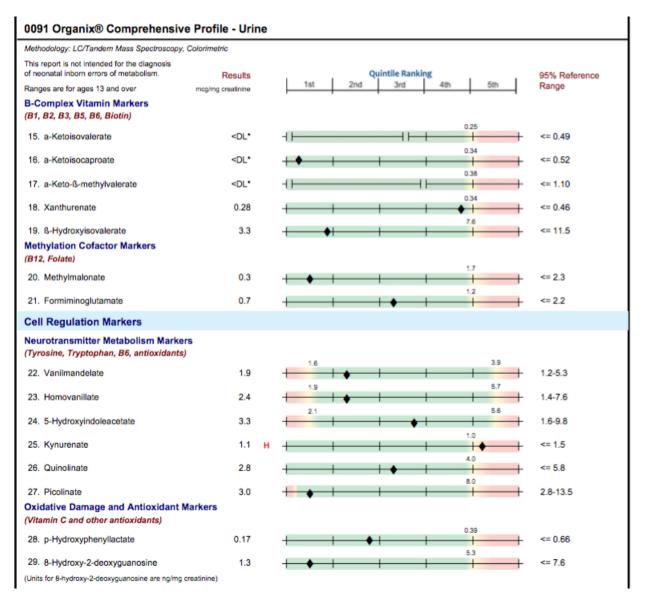


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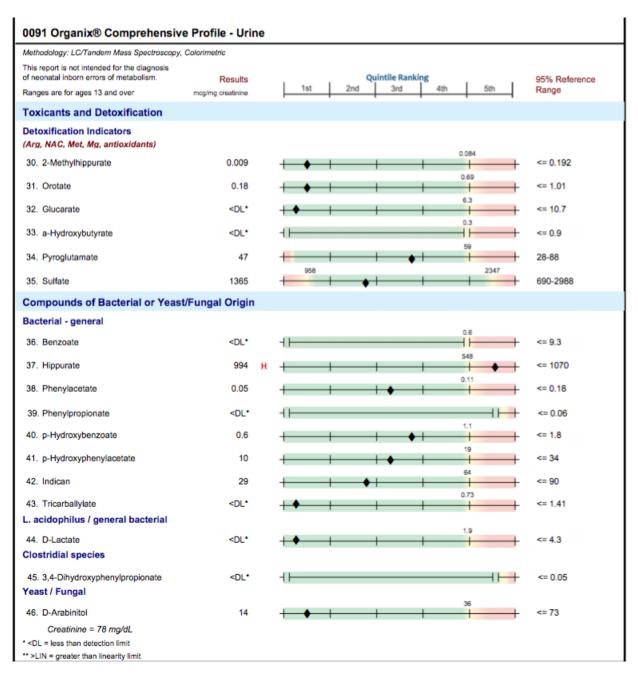














		Unit	Ref. Range
DERIVATES		_	
S-Adenosylmethionine (RBC)	218	μmol/dl	221 - 256
S-Adenosylhomocysteine (RBC)	50.7	μmol/dl	38.0 - 49.0
FOLIC ACID DERIVATES			
5-CH3-THF	7.3	nmol/l	8.4 - 72.6
10-Formyl-THF	3.6	nmol/l	1.5 - 8.2
5-Formyl-THF	1.10	nmol/l	1.20 - 11.70
THF	0.58	nmol/l	0.60 - 6.80
Folic Acid	10.9	nmol/l	8.9 - 24.6
Folinic Acid (WB)	7.2	nmol/l	9.0 - 35.5
Active folate (RBC)	333	nmol/l	400 - 1500
NUCLEOSIDE		_	
Adenosine	22.6	10^-8 M	16.8 - 21.4
AMINOACIDS IN PLASMA		_	
Glutathione (oxidised)	0.52	μmol/L	0.16 - 0.50
Glutathione (reduced)	3.2	μmol/L	3.8 - 5.5

# **CASE REVIEW REPORT OF FINDINGS**

### **Underlying Patterns**

SUPPORTING MARKERS	COMMENTS
Uric acid	Inflammation? Low ADH? Re-test
25D, 1,25D	
ALT, AST	Thyroid? CD? Re-test
Alk phos	Run isoenzymes; GGT normal
TSH	On WP Thyroid; antibodies normal
Breath test	Double peak
DD CSAP	Lysozyme, slgA, pH
DD CSAP	Re-test with Labcorp
DUTCH	Thyroid? Liver? Free cortisone low normal
DUTCH	Follow-up with serum
DUTCH	Stress response?
DUTCH	Supplementation? Neuroinflammation?
Labcorp/Quest	High TGFb1, C4a, low ADH, MSH
HDRI methylation pathways panel	Contributing to poor detox?
	Uric acid 25D, 1,25D  ALT, AST  Alk phos  TSH  Breath test  DD CSAP  DD CSAP  DUTCH  DUTCH  DUTCH  DUTCH  Labcorp/Quest



# **Recommendations for further testing**

TEST	PURPOSE	COMMENTS
VCS, Biotoxin Survey, MARCoNS	CIRS follow-up	
CMP	Re-test ALT/AST	
Uric acid	Follow-up	
Labcorp occult blood	Follow-up on DD CSAP occult blood	
Serum testosterone & DHT	Follow-up on high testosterone	
Tick-borne illness survey	Tick-borne illness screen	
25D and 1,25D re-test	After SIBO treatment	
Alk phos isoenzymes isoenzymes	Alkaline phosphatase follow-up	

## **Recommendations for Treatment**

TREATMENT	PURPOSE	COMMENTS
Antimicrobial treatment	SIBO, gut inflammation	See handout for details
Methylation protocol	Methylation	See handout for details
Stress management	HPA axis regulation	See handout
Next: methylation & CIRS		