

## Full Case Assignments I - Part Two



**Tim**  
—  
**Case #2**

**24 y.o. Male, CC:** Sinusitis and tachycardia/palpitations

Had episode of **extreme anxiety** in France in 2014, preceded by supplementation with fish oil, probiotics, and intake of caffeine and cannabis.

Since then: easily stimulated, poor exercise tolerance, palpitations, tachycardia, intolerance of caffeine, fermented foods; also history of **chronic sinusitis**.

Diet is **“mostly Paleo”**

Meds: occasional **beta-blockers**.

**Sleep is poor.** He's **unable to exercise** due to heart issues.

Okay, the next patient is a 24-year-old male. We'll call him "Tim." Chief complaint of sinusitis, tachycardia, and palpitations. He had an episode of extreme anxiety in France in 2014, preceded by supplementation with fish oil, probiotics, and intake of caffeine and cannabis. Since then, he has been easily stimulated. He has had poor exercise tolerance, palpitations, tachycardia, intolerance of caffeine and fermented foods, and also a history of chronic sinusitis. He describes his diet as mostly Paleo. He takes occasional beta-blockers for the anxiety. His sleep is poor, and he is unable to exercise due to heart issues.

Please list the 5 major health concerns in your order of importance

- Sinus inflammation
- Fast/Pounding Heart
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Please check the appropriate number on all questions below. 0 as least/never to 3 as most/always.

Category I	0	1	2	3
Feeling that bowels do not empty completely	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Lower abdominal pain relieved by passing stool or gas	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alternating constipation and diarrhea	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diarrhea	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Constipation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hard, dry, or small stool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coated tongue or "fuzzy" debris on tongue	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Pass large amount of foul-smelling gas	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
More than 3 bowel movements daily	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use laxatives frequently	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Category II	0	1	2	3
Excessive belching, burping, or bloating	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gas immediately following a meal	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Offensive breath	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Difficult bowel movement	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of fullness during and after meals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Difficulty digesting fruits and vegetables; undigested food found in stools	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Category III	0	1	2	3
Stomach pain, burning, or aching 1-4 hours after eating	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use antacids	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel hungry an hour or two after eating	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heartburn when lying down or bending forward	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Temporary relief by using antacids, food, milk, or carbonated beverages	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digestive problems subside with rest and relaxation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heartburn due to spicy foods, chocolate, citrus, peppers, alcohol, and caffeine	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Category IV	0	1	2	3
Roughage and fiber cause constipation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Indigestion and fullness last 2-4 hours after eating	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pain, tenderness, soreness on left side under rib cage	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excessive passage of gas	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nausea and/or vomiting	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stool undigested, foul smelling, mucous like, greasy, or poorly formed	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Frequent urination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased thirst and appetite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Category V</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Greasy or high-fat foods cause distress	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lower bowel gas and/or bloating several hours after eating	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bitter metallic taste in mouth, especially in the morning	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Burpy, fishy taste after consuming fish oils	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty losing weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unexplained itchy skin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Yellowish cast to eyes	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stool color alternates from clay colored to normal brown	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reddened skin, especially palms	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dry or flaky skin and/or hair	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
History of gallbladder attacks or stones	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you had your gallbladder removed?	<input type="radio"/> Yes <input checked="" type="radio"/> No			
<b>Category VI</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Acne and unhealthy skin	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Excessive hair loss	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Overall sense of bloating	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Bodily swelling for no reason	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hormone imbalances	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight gain	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor bowel function	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Excessively foul-smelling sweat	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Category VII</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Crave sweets during the day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritable if meals are missed	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depend on coffee to keep going/get started	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get light-headed if meals are missed	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating relieves fatigue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Feel shaky, jittery, or have tremors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Notice that he does not list gut issues as a main complaint, but he does have several symptoms listed in the GI categories. As I mentioned before, there is often a connection between the gut and the sinuses. Of course, we've talked extensively about the gut-brain axis in the course, and also, I've mentioned it in my writings on the blog and my podcasts.

Also, he does list some symptoms of liver and gallbladder dysfunction, which suggests that impaired detox capacity could be contributing to his symptoms.

Agitated, easily upset, nervous	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Poor memory/forgetful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Blurred vision	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Category VIII	0	1	2	3
Fatigue after meals	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crave sweets during the day	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating sweets does not relieve cravings for sugar	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Must have sweets after meals	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waist girth is equal or larger than hip girth	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequent urination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased thirst and appetite	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty losing weight	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Category IX	0	1	2	3
Cannot stay asleep	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Crave salt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Slow starter in the morning	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Afternoon fatigue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Dizziness when standing up quickly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Afternoon headaches	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Headaches with exertion or stress	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Weak nails	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Category X	0	1	2	3
Cannot fall asleep	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perspire easily	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Under high amount of stress	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight gain when under stress	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wake up tired even after 6 or more hours of sleep	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excessive perspiration or perspiration with little or no activity	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Category XI	0	1	2	3
Edema and swelling in ankles and wrists	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Muscle cramping	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor muscle endurance	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequent urination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequent thirst	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crave salt	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abnormal sweating from minimal activity	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Alteration in bowel regularity	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Inability to hold breath for long periods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Shallow, rapid breathing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
<b>Category XII</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Tired/sluggish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Feel cold? hands, feet, all over	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Require excessive amounts of sleep to function properly	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase in weight even with low calorie diet	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gain weight easily	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficult, infrequent bowel movements	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depression/lack of motivation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Morning headaches that wear off as the day progresses	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outer third of eyebrow thins	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinning of hair on scalp, face, or genitals, or excessive hair loss	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Dryness of skin and/or scalp	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental sluggishness	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Category XIII</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Heart palpitations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Inward trembling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Increased pulse even at rest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Nervous and emotional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Insomnia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Night sweats	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty gaining weight	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Category XIV</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Diminished sex drive	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Menstrual disorders or lack of menstruation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased ability to eat sugars without symptoms	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Category XV</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Increased sex drive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Tolerance to sugars reduced	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Splitting" - type headaches	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Category XVI (Males Only)</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Urination difficulty or dribbling	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequent urination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Pain inside of legs or heels	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He has several symptoms in the HPA axis categories, as well as the thyroid hypofunction and hyperfunction categories. Some symptoms in pituitary as well, which is not surprising given that his symptoms are primarily neuroendocrine.

Feeling of incomplete bowel emptying	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leg twitching at night	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
<b>Category XVII (Males Only)</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Decreased libido	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decreased number of spontaneous morning erections	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decreased fullness of erections	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty maintaining morning erections	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spells of mental fatigue	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inability to concentrate	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Episodes of depression	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Muscle soreness	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decreased physical stamina	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unexplained weight gain	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase in fat distribution around chest and hips	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweating attacks	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More emotional than in the past	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Category XVIII (Menstruating Females Only)</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Perimenopausal	<input type="radio"/>	Yes	<input type="radio"/>	No
Alternating menstrual cycle lengths	<input type="radio"/>	Yes	<input type="radio"/>	No
Extended menstrual cycle (greater than 32 days)	<input type="radio"/>	Yes	<input type="radio"/>	No
Shortened menstrual cycle (less than 24 days)	<input type="radio"/>	Yes	<input type="radio"/>	No
Pain and cramping during periods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scanty blood flow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heavy blood flow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Breast pain and swelling during menses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pelvic pain during menses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritable and depressed during menses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acne	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facial hair growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hair loss/thinning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Category XIX (Menopausal Females Only)</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
How many years have you been menopausal?	<input type="text"/> years			
Since menopause, do you ever have uterine bleeding	<input type="radio"/>	Yes	<input type="radio"/>	No
Hot flashes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental foginess	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disinterest in sex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Some symptoms in the male hormone category.

Mood swings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Painful intercourse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shrinking breasts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facial hair growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acne	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased vaginal pain, dryness, or itching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<input type="text" value="0"/> How many alcoholic beverages do you consume per week?	<input type="text" value="0"/> How many caffeinated beverages do you consume per day?
<input type="text" value="1"/> How many times do you eat out per week?	<input type="text" value="0"/> How many times a week do you eat raw nuts or seeds?
<input type="text" value="0"/> How many times a week do you eat fish?	<input type="text" value="2-3"/> How many times a week do you workout?

List the three worst foods you eat during the average week:

List the three healthiest foods you eat during the average week:

Do you smoke? ☐ Yes | ☒ No

Do you currently have mercury amalgams (fillings) ☐ Yes | ☒ No

Have you had mercury amalgam fillings removed in the past? ☐ Yes | ☒ No

Rate your levels of stress on a scale of 1-10 during the average week:

Please list any medications you currently take and for what conditions:

Please list any natural supplements you currently take and for what conditions:

He doesn't drink. He rarely eats out. His diet is very good. No history of dental amalgams. No supplements or medications, though he did mention beta-blockers in the initial consult.

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	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Eat Out at Restaurants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Pastries, Cookies, Candy, Ice Cream and Other Sweets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
White Flour: Bread, Pasta, Pancakes, Crackers, Muffins, etc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Add Sugar to Coffee, Tea, Cereals, or Other Foods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Sodas or Soft Drinks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Diet Soft Drinks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Fruit Juices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Artificial Sweeteners (NutraSweet, Saccharin, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Natural Sweeteners (Honey, Maple Syrup, Agave, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Breakfast Cereals (Hot or Cold)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Packaged Foods: Chips, Crackers, Puffs, Pretzels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Vegetable Oils (Sunflower, Safflower, Canola, Corn, Soy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Margarine or Tub Vegetable Oil Spreads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Deep-Fried Foods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Olive Oil	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avocados	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saturated Fats (Butter, Ghee, Lard, Coconut, Palm, Tallow)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Fatty Fish (Salmon, Mackerel, Sardines, Herring)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Nuts and Seeds, Nut/Seed Butters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Pasteurized Dairy (Check: <input type="checkbox"/> Nonfat, <input type="checkbox"/> Low-Fat, <input type="checkbox"/> Whole)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Raw Dairy Products (Check: <input type="checkbox"/> Nonfat, <input type="checkbox"/> Low-Fat, <input type="checkbox"/> Whole)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Fermented Dairy Products (Yogurt, Kefir, Cheese)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Eggs (Check: <input checked="" type="checkbox"/> Free-Range, <input checked="" type="checkbox"/> Pastured, <input checked="" type="checkbox"/> Organic, or <input type="checkbox"/> Conventional)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poultry or Fowl (Chicken, Turkey, Duck, etc)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pork	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Meat (Beef, Lamb)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Processed Meats (Bacon, Sausage, Salami, Ham, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Organ Meats (Liver, Kidney, Sweetbreads, etc)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soy Products (Tofu, Tempeh, Soy Milk, Edamame)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Salads, Uncooked Vegetables	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fermented Vegetables (Sauerkraut, Kim Chi, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Non-Starchy Vegetables (Greens, Squash, Carrots)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starchy Vegetables (Potatoes, Yams, Sweet Potatoes)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fresh Fruits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Beans and Legumes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Whole Grains and Whole Grain Breads (Wheat, Gluten)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Alternative Grains (Quinoa, Buckwheat, Teff, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Herbs and Spices (Fresh or Dried)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chocolate (Check: <input type="checkbox"/> Milk or <input type="checkbox"/> Dark)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Herbal Teas	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coffee (Check: <input type="checkbox"/> Regular or <input type="checkbox"/> Decaffeinated)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Caffeinated Teas (Check: <input type="checkbox"/> Black or <input type="checkbox"/> Green)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Salt (Check: <input type="checkbox"/> Iodized or <input checked="" type="checkbox"/> Sea Salt)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate if you are on any special diet:

☐ Ovo-lacto-vegetarian
 ☐ Vegetarian
 ☒ Other

☐ Diabetic ADA
 ☐ Vegan

☒ Dairy-free
 ☒ Paleo

☒ Gluten-free
 ☐ GAPS

Low histamine, Low FODMAP  
 Please Explain

If you checked any, how long have you been on this diet?

Low-Histamine and Low-FODMAP for a week, Paleo for a couple years, with varying discipline. Right now discipline is high.

If you checked any, how strictly are you on it? For example: 80/20, or all the time, except certain holidays

100% right now.

Please check any and all boxes below that describe your current eating styles:

<input checked="" type="checkbox"/> Eat while driving, in front of a TV or computer, or multi-tasking	<input checked="" type="checkbox"/> Fast eater
<input checked="" type="checkbox"/> Irregular eating habits (eating times, portion sizes, etc)	<input type="checkbox"/> Eat too much
<input type="checkbox"/> Eat late at night	<input type="checkbox"/> Eat in the middle of the night
<input type="checkbox"/> Time constraints	<input type="checkbox"/> Travel Frequently
<input type="checkbox"/> Eat more than 50% meals away from home	<input type="checkbox"/> Don't care to cook, or never learned
<input type="checkbox"/> Confused about nutritional advice	<input type="checkbox"/> Don't really enjoy meals; eat mostly for fuel or calories
<input type="checkbox"/> Eat lots of pre-made or pre-packaged foods and snacks	<input type="checkbox"/> Lack of choice of healthy foods in neighborhood

Very limited diet. He is eating low-histamine, low-FODMAP Paleo, though this only started recently.

<input checked="" type="checkbox"/> <b>Don't eat breakfast or dinner together as a family unit</b> <input type="checkbox"/> Emotional eater (when sad, bored) <input type="checkbox"/> Diet often for weight control <input type="checkbox"/> Eat too much or too little under stress	<input checked="" type="checkbox"/> <b>Don't share same meals, even if seated together at table (special dietary needs and/or food preferences)</b> <input type="checkbox"/> Have a negative relationship to food <input type="checkbox"/> Struggle with eating issues or history of eating disorders
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**Additional Comments**

The food we eat is probably the single-most important factor determining whether we are healthy or ill. 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).

Free range eggs & uncured bacon at 11ish. Sometimes no breakfast.

2) Do you have a morning snack? ☐ Yes ☒ No ☐ Sometimes

3) Describe a typical lunch (including what time you eat it).

Eggs & bacon if skipped breakfast, greens salad with olive oil-based. 1pm-2pm

4) Do you have an afternoon snack? ☐ Yes ☐ No ☐ Sometimes

Plantain chips w/ tahini or in the past, organic salsa

5) Describe a typical dinner (including what time you eat it).

Grass-fed meat or organic poultry, green vegetable, sometimes starchy vegetable. Coconut oil, beef tallow as cooking oil. Possibly some Olive oil after cooking. 5pm-8pm

6) Do you eat a bedtime snack? ☐ Yes ☒ No ☐ 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 ☒ No ☐ Sometimes

If so, do you eat? What do you eat?

**Additional Comments**

I eat a pretty clean Paleo diet, high in protein and fat.

You can see how restricted his diet is here on the diet survey. Eggs and bacon for breakfast. Eggs and bacon again if he skipped breakfast or a green salad with olive oil for lunch and then grass-fed

meat, green vegetable, and sometimes a starchy vegetable. He is on a very, very low-carb diet, and that is something to be aware of, especially given his cognitive and mood symptoms.

### ENVIRONMENTAL EXPOSURE

Please answer the following questions:

	Yes	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:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
a. Do you have samples/evidence of spore or genus and species of fungus (air test, ERMI test, etc.)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b. Is there visible microbial growth (mold)?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c. Is there a presence of musty smells?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
2) Do you remember a tick bite occurring before your illness beginning? If yes, please answer the next two (2) questions:	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
a. Did you have an unexplained rash after the bite?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b. Did you experience flu-like illness after the bite?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
3) Have you had a brown recluse or other poisonous spider bite? If yes:	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
a. Did you experience flu-like illness after the bite?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
4) Did you become ill after eating fish?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
5) Did you become ill after exposure to a body of fresh water?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
6) Did you become ill after exposure to the ocean during a 'Red Tide' or other bloom?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
7) Did you become ill after exposure to an estuary fish kill?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
8) Did you become ill after exposure to a closed shell fish bed area?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

### ASSOCIATED ILLNESSES

Please mark yes or no:

Illness	Yes	No
Tick borne illness	<input type="radio"/>	<input checked="" type="radio"/>
Lyme Disease	<input type="radio"/>	<input checked="" type="radio"/>
Fibromyalgia	<input type="radio"/>	<input checked="" type="radio"/>
Chronic Fatigue Syndrome	<input type="radio"/>	<input checked="" type="radio"/>
Gulf War Syndrome	<input type="radio"/>	<input checked="" type="radio"/>
Chemical Sensitivity	<input type="radio"/>	<input checked="" type="radio"/>
Sick Building Syndrome	<input type="radio"/>	<input checked="" type="radio"/>
Fungus or Mycotoxicosis	<input type="radio"/>	<input checked="" type="radio"/>
Depression	<input type="radio"/>	<input checked="" type="radio"/>
Chronic Soft Tissue Injury	<input type="radio"/>	<input checked="" type="radio"/>
Irritable Bowel Syndrome	<input type="radio"/>	<input checked="" type="radio"/>
Bacteria	<input type="radio"/>	<input checked="" type="radio"/>
Bell's Palsy	<input type="radio"/>	<input checked="" type="radio"/>
Pfiesteria	<input type="radio"/>	<input checked="" type="radio"/>



Sensory Neural Hearing Loss	<input type="radio"/>	<input checked="" type="radio"/>
Ciguatera Seafood Poisoning	<input type="radio"/>	<input checked="" type="radio"/>
Any Learning Disability	<input type="radio"/>	<input checked="" type="radio"/>
Autism	<input type="radio"/>	<input checked="" type="radio"/>
Attention Deficit Disorder	<input type="radio"/>	<input checked="" type="radio"/>
Charcot Marie Tooth Syndrome	<input type="radio"/>	<input checked="" type="radio"/>
Alzheimer's Disease	<input type="radio"/>	<input checked="" type="radio"/>
Parkinson's Disease	<input type="radio"/>	<input checked="" type="radio"/>
Amyotrophic Lateral Sclerosis	<input type="radio"/>	<input checked="" type="radio"/>
Multiple Sclerosis	<input type="radio"/>	<input checked="" type="radio"/>
Diabetes	<input type="radio"/>	<input checked="" type="radio"/>
Ocular Disease (e.g., cataract)	<input type="radio"/>	<input checked="" type="radio"/>
Retinal Disease (e.g., glaucoma)	<input type="radio"/>	<input checked="" type="radio"/>
Low Vision or Blindness	<input type="radio"/>	<input checked="" type="radio"/>
Another Condition Involving Neurological Function	<input type="radio"/>	<input checked="" type="radio"/>

He mentions that he became ill after eating fish. That was not exactly the case. He was taking fish oil when he had his episode of extreme anxiety. The significance of becoming ill after eating fish is that some fish harbor toxins such as fisteria, which can cause CIRS (chronic inflammatory response syndrome). We're not covering that in ADAPT Level One, but it is just something to be aware of.

The single most important criteria for effective case management is a comprehensive and detailed health history. Please answer the following questions with as much detail as possible. It is important for me to know everything about you and your case. Even when you feel the questions may not be directly relevant to your situation, please do your best to answer them.

It takes tremendous time and energy for any healthcare provider to manage a complicated case. My practice is limited to a small number of patients and therefore the case review process is very important.

*Instructions: Please type answers to the following questions with as much detail as possible. Please answer each question independently.*

### HEALTH HISTORY QUESTIONS

1) Please list the following

Education: Degree from St. Mary's College of California, Physics

Profession: Web Designer & Developer

Interests (sports, hobbies, etc.):

All sports, working out, reading

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

Sinus inflammation, Fast and pounding heart rate.

Sinus stuff is now more important as it's getting worse with no fix in sight, and significantly worsens the heart issues.

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

Sinus stuff: definitely inflamed, sinusitis

Heart stuff: No diagnoses, suspected histamine issues/mast cell activation syndrome, possible but unlikely hyperthyroidism.

Sinus: Possibly histamine, mast cell stuff, some sort of sinus infection?

Heart: Possibly histamine, mast cell stuff, but I did a 4 day Master Cleanse fast followed by a week of low-histamine, low FODMAP w/ no improvement in symptoms.

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

Sinus: Acute onset after smoking marijuana for a few months in Fall 13, followed by acute worsening after smoking 2 cigars 12 months ago.

Heart: Not sure. Acute onset one day in October 2014 when I had 2 cups coffee, 5-hr energy, smoked salmon, and probiotic (and had been eating more fermented foods recently)...significant worsening the more inflamed my sinuses are, possibly because I'm not getting enough oxygen easily.

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

Literally nothing. And I've tried a lot.

The only thing that seems to positively affect my heart issues are getting little sleep 2 nights before.

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

Probiotics possibly, fermented foods possibly.

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

None.

### 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?

They don't care, they have incentives that don't align with my interests, they're not properly educated in how to think about health and the body.

Plus, what I have seems to be really hard to figure out and fix.

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

Someone who can identify and fix my issues.

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

I would ideally like to see some improvement within a couple weeks, with more improvement the longer I stick with the program.

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, within reason.

5) On a scale of 1 to 10, how committed are you to recovering your health?  Why?

It's destroyed my life.

6) What obstacles or beliefs, if any, stand in the way of you recovering your health?

None?

7) Are there emotional or psychological issues that may be contributing to your health problems? If so, please explain them briefly.

Seeing as these issues have destroyed my life, they've also destroyed my social life. I don't have many friends anymore and certainly don't have many uplifting relationships. I do think relationships and not being isolated are extremely important for health, so this could be a contributing factor. I don't think it's the main factor.

8) Do you enjoy your work? Do you believe your work contributes to your health problems?

Yes, no.

9) Do you have a purpose in life?

Be happy, have good relationships, create value.

10) Where else do you find support? Friends? Church or religious group? Nature?

No where. My family seems to sweep these issues under the rug as if they don't exist, I don't have many friends anymore.

11) How did you feel about answering all of these questions and the case review process?

Fine.

His sinus issues started after smoking marijuana in the fall of 2013. His cardiac issues started in 2014 in France after an episode of drinking caffeine and smoking cannabis, I think. He didn't actually make it clear what the route of intake of cannabis was, that is, if he ate something. Sometimes when people eat cannabis they get a much larger dose than they had intended, and that can provoke anxiety, though it doesn't tend to persist like it has in this case.

Now, this is a really important note here, and it's something to be aware of as you workup patients. This is the patient's interpretation of what happened, and it may very well be accurate, but be careful not to accept it at face value because sometimes the patient's story, interpretation, or context that they've created to make sense of events is actually misleading and can distract us from other important clues.

This patient had tried a lot of things, and none of it had really helped. His commitment is 10. Another small note here. See that his answer to "How did you feel about the case review process?" was "Fine." A one-word answer. He is a young male. This is not abnormal, but it does indicate that there may be a lack of willingness to look at emotional or psychological routes or underpinnings of the illness. I put this question here for a reason, and this is the reason, actually. You may need to address this in the treatment. If you notice in the personal opinion question directions, it says, "Please do not answer 'I don't know' to any of these questions." Very frequently you will see people answer with "I don't know," "fine," "yes," or "no," and that is just something to pay attention to.

Marker	Value	Functional Range	Lab Range
Glucose	68	75 - 90	65 - 99
Hemoglobin A1c	5.2	4.4 - 5.4	4.8 - 5.6
Uric Acid	7.8	3.7 - 6.0	3.7 - 8.6
BUN	20	13 - 18	6 - 20
Creatinine	1.07	0.85 - 1.1	0.76 - 1.27
BUN/Creatinine Ratio	19	8 - 19	8 - 19
eGFR if Non-African American	97		> 59
eGFR if African American	112		> 59
Sodium	140	135 - 140	134 - 144
Potassium	4.2	4.0 - 4.5	3.5 - 5.2
Chloride	99	100 - 106	97 - 108
CO <sub>2</sub>	22	25 - 30	18 - 29
Calcium	9.4	9.2 - 10.1	8.7 - 10.2
Parathyroid Hormone, Intact	20	15 - 60	15 - 65
Phosphorus	3.5	3.0 - 4.0	2.5 - 4.5
Magnesium	1.9	2.0 - 2.6	1.6 - 2.3
Protein, total	7.2	6.9 - 7.4	6.0 - 8.5
Albumin	4.8	4.0 - 5.0	3.5 - 5.5
Globulin	2.4	2.4 - 2.8	1.5 - 4.5
A/G ratio	2.0	1.5 - 2.0	1.1 - 2.5
Bilirubin, total	0.7	0.1 - 1.2	0.0 - 1.2
Alkaline Phosphatase	68	42 - 107	39 - 117
LDH	162	140 - 180	121 - 224
AST	16	0 - 25	0 - 40
ALT	10	0 - 26	0 - 44
GGT	10	0 - 29	0 - 65
TIBC	294	275 - 425	250 - 450
UIBC	177	175 - 350	111 - 343
Iron	117	40 - 135	38 - 169
Iron saturation	40	17 - 45	15 - 55
Ferritin	273	30 - 200	30 - 400
Vitamin B-12	478	450 - 2000	211 - 946
Folate, Serum	14.1	> 5.0	> 3.0
Calcitriol (1,25 di-OH Vitamin D)	93.5	19.9 - 79.3	19.9 - 79.3
Vitamin D, 25-hydroxy	61.7	35 - 60	30.0 - 100.0
Cholesterol, total	227	150 - 220	100 - 199
Triglycerides	48	50 - 100	0 - 149
HDL	72	55 - 85	> 39
LDL	145	0 - 140	0 - 99
T. Chol / HDL Ratio	3.2	< 3	0 - 5.0
Triglycerides / HDL Ratio	0.67	< 2	< 3.8

Marker	Value	Functional Range	Lab Range
CRP-hs	0.27	< 1.0	0.00 - 3.00
Homocysteine	10.7	< 7.0	0.0 - 15.0
TSH	2.120	0.5 - 2.0	0.45 - 4.50
T4, total	9.6	6.0 - 12	4.5 - 12
T3 Uptake	28	30 - 38	24 - 39
T3, Total	102	100 - 180	71 - 180
T3, Free	2.6	2.5 - 4.0	2 - 4.4
T4, Free	1.31	1 - 1.5	0.82 - 1.77
Reverse T3	24.5	9 - 21	9.2 - 24.1
Thyroid - TPO Ab	7		0 - 34
Thyroid - TGA	<1.0		0 - 0.9
Copper	87	81 - 157	72 - 166
Zinc	76	64 - 126	56 - 134
Zinc / Copper Ratio	0.87	> 0.85	
Serum Methylmalonic Acid (MMA)	71	< 300	0 - 378
WBC	4.0	5.0 - 8.0	3.4 - 10.8
RBC	4.71	4.4 - 4.9	4.14 - 5.8
Hemoglobin	14.4	14 - 15	12.6 - 17.7
Hematocrit	41.5	40 - 48	37.5 - 51.0
MCV	88	85 - 92	79 - 97
MCH	30.6	27.7 - 32.0	26.6 - 33.0
MCHC	34.7	32 - 35	31.5 - 35.7
RDW	13.4	11.5 - 15.0	12.3 - 15.4
Platelets	293	150 - 379	150 - 379
Neutrophils	47	40 - 60	
Lymphocytes	44	25 - 40	
Monocytes	6	4.0 - 7.0	
Eosinophils	2	0.0 - 3.0	
Basophils	1	0.0 - 3.0	

Blood work: Fasting glucose is a little on the low side but not in the true hypoglycemia range. I would do some post-meal blood glucose testing to look at possible reactive hypoglycemia. Magnesium is slightly low at 1.9. That is a moderate risk of deficiency. Ferritin is functionally high at 273. The rest of the iron panel is normal.

C-reactive protein is normal, but it still could be inflammation. As you recall from the iron overload unit when we talked about this, CRP doesn't necessarily rule out inflammation, normal CRP that is. I would run iron panel and ferritin again, but I'd add soluble transferrin receptor.

His 25(OH)D is starting to get a little bit high at 61.7, and calcitriol is lab-high at 93.5. Calcitriol, as you recall, is difficult to interpret because it can be high in both vitamin D deficiency and excess. Also, it may be high when there is excess parathyroid hormone or when there are diseases such as sarcoidosis or some lymphomas that can manufacture calcitriol outside of the kidneys. That doesn't seem to be the case here, since the parathyroid hormone is on the low end of the range at 20, and there is no evidence of sarcoidosis.



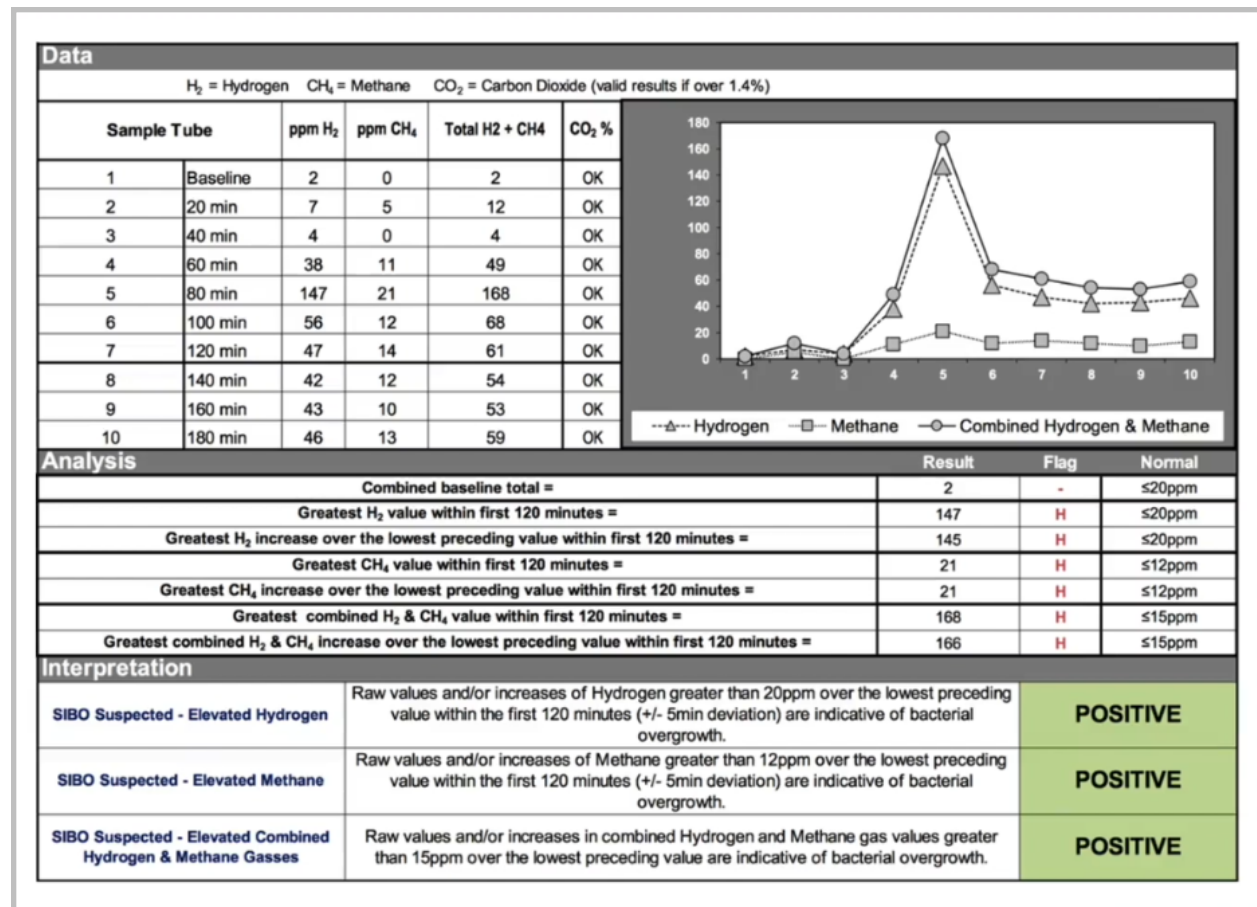
Serum calcium was normal, even the low end of the range, so this doesn't seem to be true vitamin D toxicity, and the patient is not supplementing. I would just monitor during treatment, and if it continues to be high, do further workup.

Total cholesterol is a little high, but the total cholesterol-to-HDL ratio is close to normal. HDL and triglycerides are optimal. I would probably address other things first and then retest.

Homocysteine is functionally high at 10.7. Serum B12, folate, and MMA are all optimal, so I would check urine FIGLU and MMA.

TSH is slightly high in the functional range. T4, free T4, and free T3 are normal, but reverse T3 is high at 24.5. Using free T3, his ratio would be 10.6, and ideal is over 20. Remember to take that with a grain of salt, but a high reverse T3 along with a high ferritin may be indicative of inflammation.

White blood cell count is slightly low in the functional range, and lymphocytes are slightly high. It is possible that points to a chronic viral infection or immune dysregulation, although as we discussed in the presentation on this topic, you can't really make a diagnosis based on slight differences in the functional range of these markers.





SIBO results were strongly positive. He had a hydrogen peak of 147 at 80 minutes and methane of 21 at 80 minutes, so that is positive for both hydrogen, methane, and combined. You see a really big spike there in the test result.

GI Screen with H. pylori Antigen - 401H			
Microscopy			
	Sample I	Sample II	Sample III
Ova/Parasites	No Ova/Parasites Found	No Ova/Parasites Found	No Ova/Parasites Found
Trichrome Stain	No Ova/Parasites Found	No Ova/Parasites Found	No Ova/Parasites Found
Yeast	No yeast found	No yeast found	No yeast found
Each stool sample was prepared for microscopic evaluation on wet mount and trichrome stains, utilizing resource-intensive techniques to aid in the analysis and detection of organisms. Yeast, when visibly identified, is reported in terms of predominance on the sample. If 'QNS' is reported, the patient's sample was inadequate for testing purposes.			
Antigens			
Cryptosporidium parvum		NOT DETECTED	
Giardia lamblia		NOT DETECTED	
Helicobacter pylori		NOT DETECTED	
Stool antigen tests are widely used for their non-invasive nature, high sensitivity, and high specificity. Detection of antigens on the surface of organisms in stool specimens is the current test of choice for pathogen diagnosis and provides increased sensitivity over more common microscopy techniques.			
Cultures			
Bacteria		Yeast	
Citrobacter spp.:	NG	Candida Spp.: NG	
Enterobacter spp.:	NG	Other Yeast Identified: No other yeast identified	
Escherichia coli:	+4		
Klebsiella spp.:	NG		
Proteus spp.:	NG		
Pseudomonas spp.:	NG		
Other Bacteria spp. Identified:			
No other bacteria identified			
Organisms grown on culture media are reflexed to manual and/or automated procedures to identify at the species level. The organism amount of growth is reported based on the four quadrants of the plate medium. NG= No Growth. +1 or +2 = Light. +3 = Moderate. +4 = Abundant. If 'QNS' is reported, the patient's sample was inadequate for testing purposes. Standard organisms are listed based on their known prevalence within the patient population, as well as predominance in literature as pathogens and/or causes of autoimmune activity.			
Occult Blood			
Result:		NOT DETECTED	
The occult blood test aims to detect subtle blood loss in the gastrointestinal tract, anywhere from the mouth to the colon. Positive tests may result from either upper or lower gastrointestinal bleeding and warrant further investigation.			

BioHealth stool tests are unremarkable.

## Comprehensive Stool Analysis / Parasitology x3

BACTERIOLOGY CULTURE		
Expected/Beneficial flora	Commensal (Imbalanced) flora	Dysbiotic flora
4+ Bacteroides fragilis group 4+ Bifidobacterium spp. 4+ Escherichia coli NG Lactobacillus spp. 3+ Enterococcus spp.  4+ Clostridium spp. NG = No Growth	1+ Hemolytic Escherichia coli	

BACTERIA INFORMATION
<p><b>Expected /Beneficial bacteria</b> make up a significant portion of the total microflora in a healthy &amp; 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.</p> <p><b>Clostridia</b> 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 <i>C. difficile</i> associated disease is suspected, a Comprehensive Clostridium culture or toxigenic <i>C. difficile</i> DNA test is recommended.</p> <p><b>Commensal (Imbalanced) bacteria</b> 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.</p> <p><b>Dysbiotic bacteria</b> 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.</p>

YEAST CULTURE	
Normal flora	Dysbiotic flora
No yeast isolated	

MICROSCOPIC YEAST	
<b>Result:</b> <div style="border: 1px solid black; padding: 2px; display: inline-block;">Rare</div>	<b>Expected:</b> None - Rare
<p>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.</p>	

YEAST INFORMATION
<p><b>Yeast</b> 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 unviable.</p>

### Comprehensive Stool Analysis / Parasitology x3

PARASITOLOGY/MICROSCOPY		PARASITOLOGY INFORMATION
<b>Sample 1</b>	None Ova or Parasites	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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 <i>Cyclospora cayetanensis</i> or <i>Microsporidia</i> spp.</p>
<b>Sample 2</b>	None Ova or Parasites	
<b>Sample 3</b>	None Ova or Parasites Rare Yeast	
GIARDIA/CRYPTOSPORIDIUM IMMUNOASSAY		
	Within	Outside Reference Range
<i>Giardia duodenalis</i>	Neg	Neg
<i>Cryptosporidium</i>	Neg	Neg
<p><b><i>Giardia duodenalis</i></b> (AKA <i>intestinalis</i> and <i>lamblia</i>) is a protozoan that infects the small intestine and is passed in stool and spread by the fecal-oral route. Waterborne transmission is the major source of giardiasis.</p> <p><b><i>Cryptosporidium</i></b> is a coccidian protozoa that can be spread from direct person-to-person contact or waterborne transmission.</p>		

On Doctor's Data panel, he has no growth of *Lactobacillus*, although his other beneficial bacteria are good, and no parasites and fungal overgrowth.

## Comprehensive Stool Analysis / Parasitology x3

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

INFLAMMATION				<p><b>Lactoferrin</b> and <b>Calprotectin</b> are reliable markers for differentiating organic inflammation (IBD) from functional symptoms (IBS) and for management of IBD. Monitoring levels of fecal lactoferrin and calprotectin can play an essential role in determining the effectiveness of therapy, are good predictors of IBD remission, and can indicate a low risk of relapse. <b>Lysozyme*</b> is an enzyme secreted at the site of inflammation in the GI tract and elevated levels have been identified in IBD patients. <b>White Blood Cells (WBC)</b> and <b>Mucus</b> in the stool can occur with bacterial and parasitic infections, with mucosal irritation, and inflammatory bowel diseases such as Crohn's disease or ulcerative colitis.</p>
	Within	Outside	Reference Range	
Lactoferrin	1.7		< 7.3 µg/mL	
Calprotectin*	< 10		<= 50 µg/g	
Lysozyme*	275		<= 600 ng/mL	
White Blood Cells	None		None - Rare	
Mucus	Neg		Neg	

IMMUNOLOGY				<p><b>Secretory IgA*</b> (sIgA) is secreted by mucosal tissue and represents the first line of defense of the GI mucosa and is central to the normal function of the GI tract as an immune barrier. Elevated levels of sIgA have been associated with an upregulated immune response.</p>
	Within	Outside	Reference Range	
Secretory IgA*		649	51 - 204 mg/dL	



### Comprehensive Stool Analysis / Parasitology x3

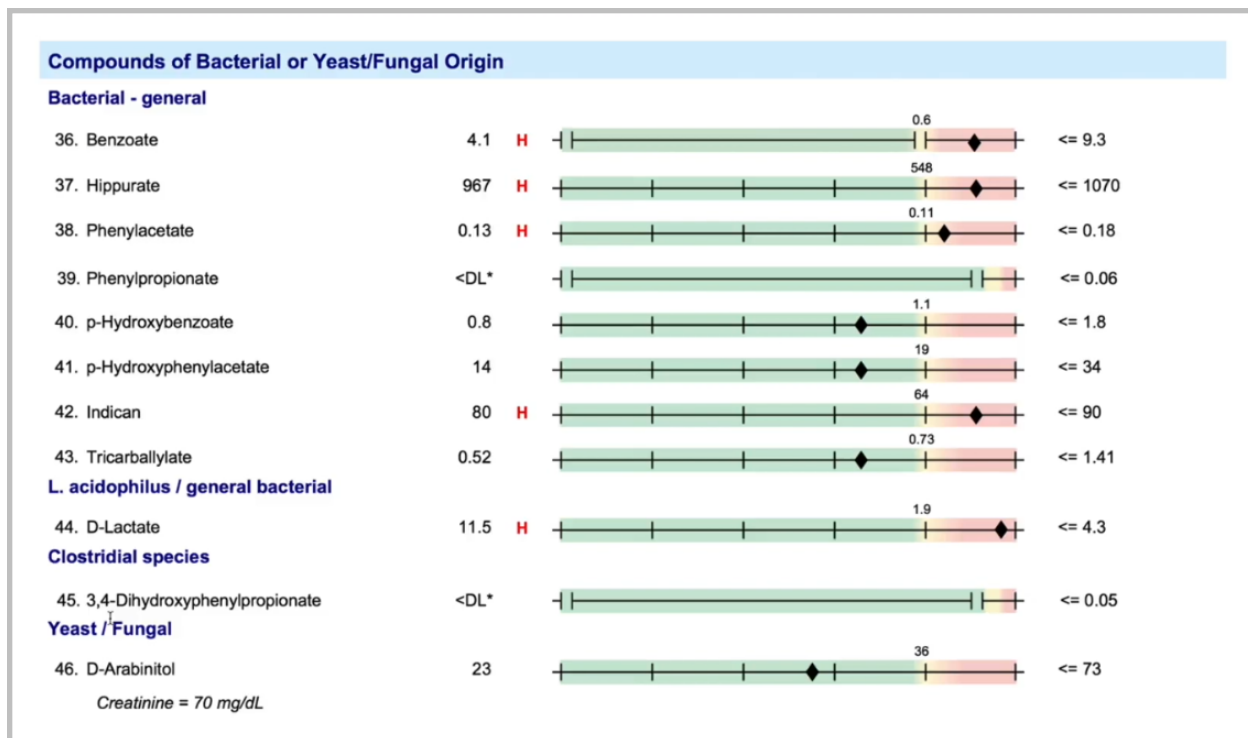
SHORT CHAIN FATTY ACIDS				
	Within	Outside	Reference Range	
% Acetate	64		40 - 75 %	<b>Short chain fatty acids (SCFAs):</b> SCFAs are the end product of the bacterial fermentation process of dietary fiber by beneficial flora in the gut and play an important role in the health of the GI as well as protecting against intestinal dysbiosis. Lactobacilli and bifidobacteria produce large amounts of short chain fatty acids, which decrease the pH of the intestines and therefore make the environment unsuitable for pathogens, including bacteria and yeast. Studies have shown that SCFAs have numerous implications in maintaining gut physiology. SCFAs decrease inflammation, stimulate healing, and contribute to normal cell metabolism and differentiation. Levels 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 adequate fiber intake.
% Propionate		7.0	9 - 29 %	
% Butyrate	27		9 - 37 %	
% Valerate	1.6		0.5 - 7 %	
Butyrate	2.3		0.8 - 4.8 mg/mL	
Total SCFA's	8.4		4 - 18 mg/mL	

INTESTINAL HEALTH MARKERS				
	Within	Outside	Reference Range	
Red Blood Cells	None		None - Rare	<b>Red Blood Cells (RBC)</b> in the stool may be associated with a parasitic or bacterial infection, or an inflammatory bowel condition such as ulcerative colitis. Colorectal cancer, anal fistulas, and hemorrhoids should also be ruled out. <b>pH:</b> Fecal pH is largely dependent on the fermentation of fiber by the beneficial flora of the gut. <b>Occult blood:</b> A positive occult blood indicates the presence of free hemoglobin found in the stool, which is released when red blood cells are lysed.
pH	6.5		6 - 7.8	
Occult Blood		Pos	Neg	

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

Very high secretory IgA at 649, and then he has low propionic acid. Positive for occult blood. BioHealth was negative for occult blood, but as you know, we would run a LabCorp occult blood to double check on this.

This is a good example of why it is important to do breath testing for SIBO in addition to stool testing because if you look at the stool tests alone, you could assume that there is not much of a problem, but the SIBO breath results were strongly positive.



This is also where urine organic acids can be helpful. Note that D-lactate is very high. As you recall, that is being considered as an independent marker of SIBO. He also had four other markers of bacterial overgrowth, so this confirms the breath test results.

I'm reluctant to make a diagnosis of bacterial overgrowth on the basis of urine organic acids alone, but when they confirm the diagnosis elsewhere with breath testing or stool testing, I think it helps strengthen the result.

### 0091 Organix® Comprehensive Profile - Urine

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

This report is not intended for the diagnosis of neonatal inborn errors of metabolism.

Ranges are for ages 13 and over

#### B-Complex Vitamin Markers

(B1, B2, B3, B5, B6, Biotin)

	Results	Quintile Ranking	95% Reference Range
	mcg/mg creatinine	1st 2nd 3rd 4th 5th	
15. a-Ketoisovalerate	<DL*	0.25	<= 0.49
16. a-Ketoisocaproate	0.19	0.34	<= 0.52
17. a-Keto-β-methylvalerate	0.65 H	0.38	<= 1.10
18. Xanthurenate	0.02	0.34	<= 0.46
19. β-Hydroxyisovalerate	7.5	7.6	<= 11.5

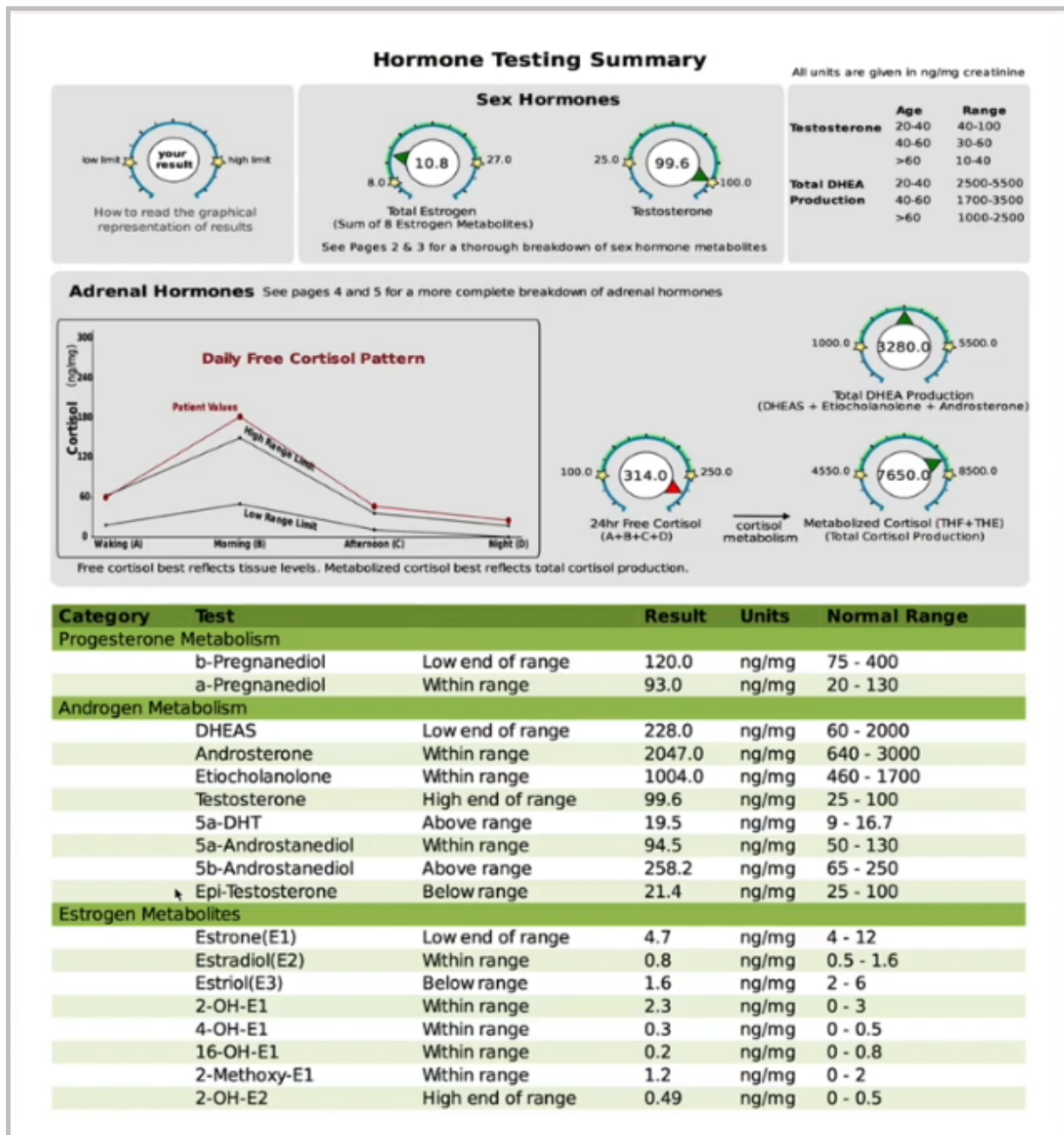
#### Methylation Cofactor Markers

(B12, Folate)

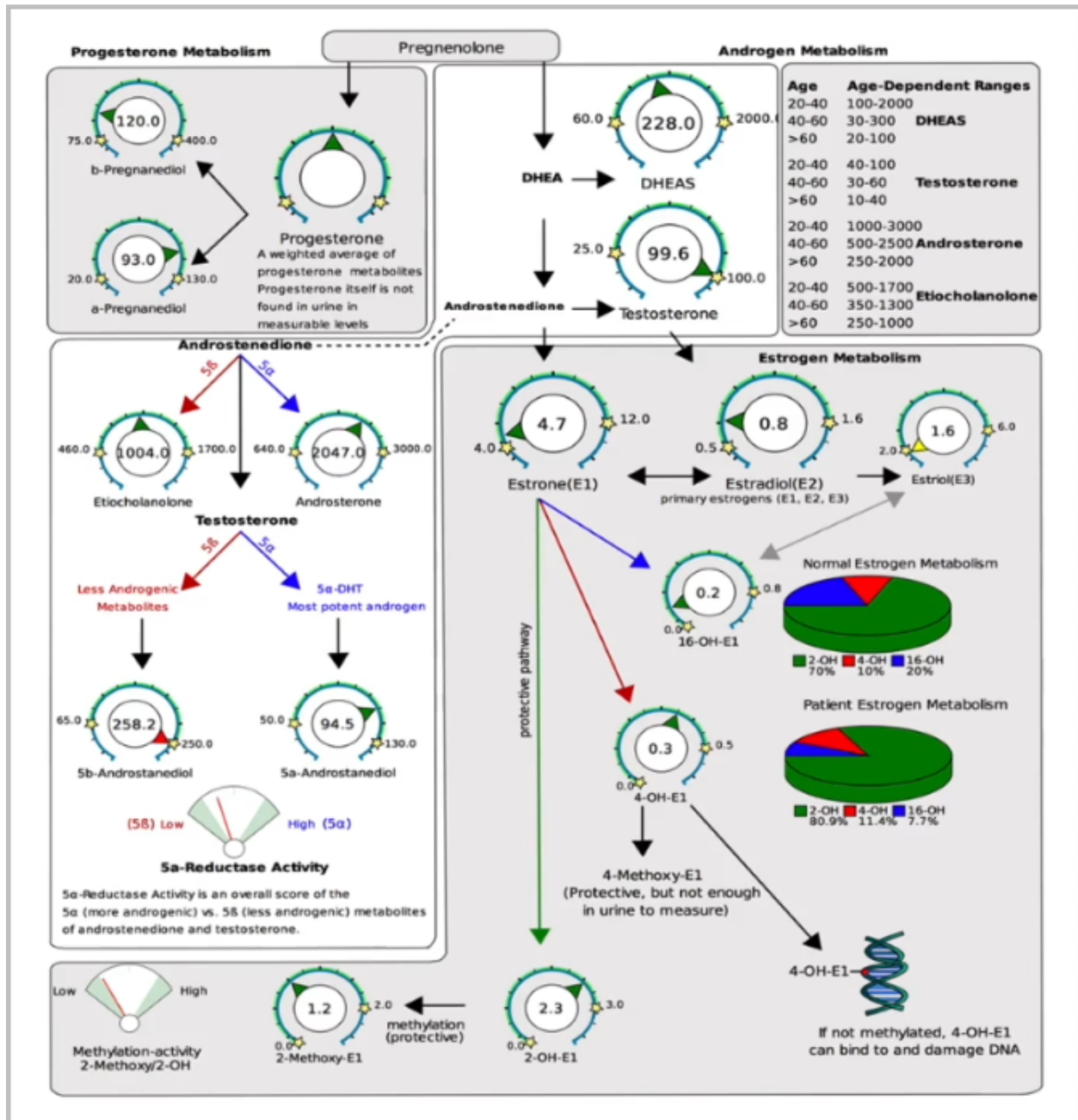
20. Methylmalonate	2.3 H	1.7	<= 2.3
21. Formiminoglutamate	0.6	1.2	<= 2.2

Urine FIGLU is normal, but look at MMA. It is quite elevated at 2.3, the cut-point being 1.5. When you look at the scientific literature, it seems urine and serum MMA have similar sensitivity in detecting B12 deficiency, but my experience is that urine MMA is much more sensitive and often matches homocysteine, whereas serum MMA does not. Tim, our patient here, has significant SIBO, and that could be reducing B12 absorption and may be partly to blame for his palpitations.



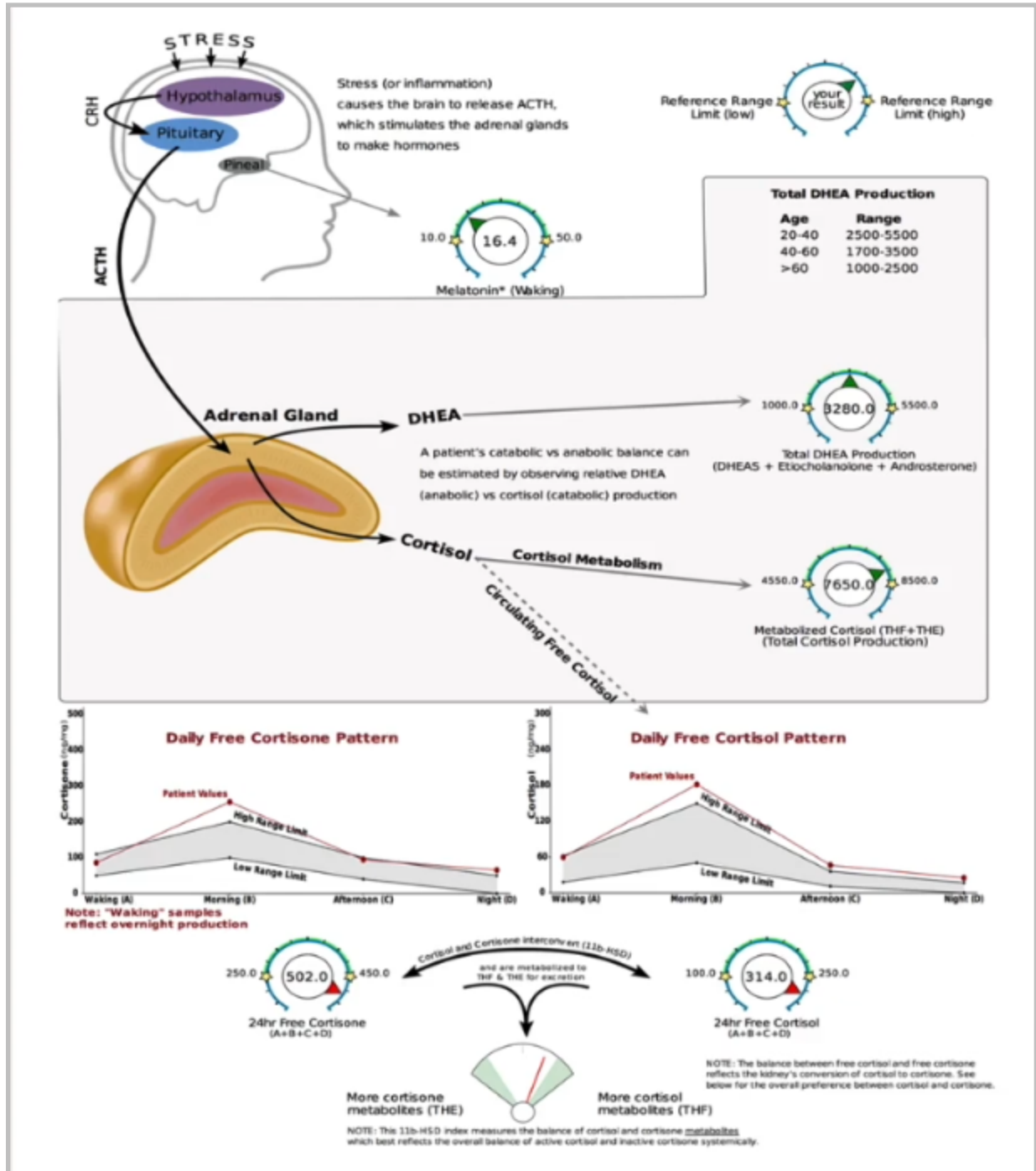


DUTCH results, not surprisingly, show free cortisol is significantly elevated at 314. The upper end of the range is 250, and it is high at all four time points. Metabolized cortisol is high-normal. DHEA is normal. Note that testosterone is high-normal at his age. He is a pretty young guy. That is not necessarily pathological.



Sex hormones are normal. Slightly low estriol. I don't think it is significant. Methylation activity is on the low side, again not surprising given his homocysteine and MMA.

Category	Test		Result	Units	Normal Range
<b>Creatinine</b>					
	Creatinine A (Waking)	Within range	2.32	mg/ml	0.3 - 3
	Creatinine B (Morning)	Within range	2.65	mg/ml	0.3 - 3
	Creatinine C (Afternoon)	Within range	1.56	mg/ml	0.3 - 3
	Creatinine D (Night)	Within range	2.14	mg/ml	0.3 - 3
<b>Daily Free Cortisol and Cortisone</b>					
	Cortisol A (Waking)	High end of range	59.9	ng/mg	18 - 62
	Cortisol B (Morning)	Above range	181.9	ng/mg	50 - 150
	Cortisol C (Afternoon)	Above range	46.4	ng/mg	11 - 36
	Cortisol D (Night)	Above range	25.2	ng/mg	0 - 17
	Cortisone A (Waking)	Within range	86.3	ng/mg	50 - 110
	Cortisone B (Morning)	Above range	256.0	ng/mg	100 - 200
	Cortisone C (Afternoon)	High end of range	94.7	ng/mg	40 - 100
	Cortisone D (Night)	Above range	65.5	ng/mg	0 - 50
	24hr Free Cortisol	Above range	314.0	ug	100 - 250
	24hr Free Cortisone	Above range	502.0	ug	250 - 450
<b>Cortisol Metabolites and DHEAS</b>					
	b-Tetrahydrocortisol (b-THF)	High end of range	3221.0	ng/mg	1750 - 3330
	a-Tetrahydrocortisol (a-THF)	Within range	354.0	ng/mg	175 - 520
	b-Tetrahydrocortisone (b-THE)	Within range	4075.0	ng/mg	2350 - 4800
	Metabolized Cortisol (THF+THE)	Within range	7650.0	ng/mg	4550 - 8500
	DHEAS	Low end of range	228.0	ng/mg	60 - 2000
<b>Melatonin (*measured as 6-OH-Melatonin-Sulfate)</b>					
	Melatonin* (Waking)	Low end of range	16.4	ng/mg	10 - 50



Free cortisone is also elevated, and that strengthens the high cortisol finding. Melatonin is low-normal, not surprising given the high cortisol and cortisone, and that is likely contributing to his sleep issues.



<b>Patient Name:</b>	"Tim"	<b>Date:</b>	10-17-16
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[illegible]

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#### Recommendations for further testing

TEST	PURPOSE	COMMENTS
Post-meal glucose testing	Blood sugar	
Iron panel + ferritin + soluble transferrin receptor	Iron follow-up	
Immunosciences viral panel	Reactivated viral infection	

#### Recommendations for Treatment

TREATMENT	PURPOSE	COMMENTS
Antimicrobial SIBO protocol	Treat SIBO	
HPA Balance	High cortisol	
Phosphatidylserine	High cortisol	
Magnesium	Magnesium	
Sublingual B12	Impaired methylation	
Stress management	High cortisol	See handout

<http://ccfmed.com>

Okay, here is the report of findings for Tim. Possible magnesium deficiency. Borderline high vitamin D with the 25(OH)D and calcitriol. I don't think that is pathological, so you'd just want to observe that. Inflammation probably with the ferritin and reverse T3. Impaired methylation with the homocysteine and urine MMA. B12 deficiency. I didn't write that here specifically, but that is what is causing the impaired methylation. Immune dysregulation with white blood cell count and lymphocytes. There is a question mark after it because I don't think you can make a diagnosis on



that basis alone, but certainly his symptoms could be suggestive of some kind of immune dysregulation, neuroimmune or neuroendocrine immune problem. SIBO from the breath test and the D-lactate on Organix urine. Gut barrier dysfunction with the secretory IgA on Doctor's Data stool test and then HPA axis dysregulation on DUTCH with hypercortisolism.

I would have him do some post-meal glucose testing to look at reactive hypoglycemia as a possibility. Redo the iron panel plus ferritin and soluble transferrin receptor as a follow-up on iron. Then consider an Immunosciences viral panel to look for reactivated viral infection.

We did an antimicrobial SIBO protocol to treat the SIBO. We used HPA Balance and phosphatidylserine to reduce cortisol. We gave him a little bit of magnesium and sublingual B12 for B12 deficiency and methylation there. Also stress management for HPA axis.

## Antimicrobial protocol

Nutriceutical	Dosage
<b>GI Synergy</b>	1 packet BID ( <i>with breakfast and dinner</i> )
<b>Lauricidin</b>	1 scoop TID ( <i>with each meal</i> )
<b>Interfase Plus</b>	3-4 capsules BID ( <i>on empty stomach</i> )
<b>PHGG</b>	5 grams/d taken ( <i>with dinner</i> )
<b>Prescript Assist</b>	1 BID ( <i>upon rising and before bed</i> )
<b>MegaSporeBiotic</b>	1 capsule ( <i>with lunch</i> )
<b>Iberogast</b>	20 drops TID just before meals

Here is the antimicrobial protocol we used for SIBO. It is the core protocol but added Iberogast 20 drops three times a day just before meals as a prokinetic. Then the partially hydrolyzed guar gum to help with the efficacy of the antimicrobials.