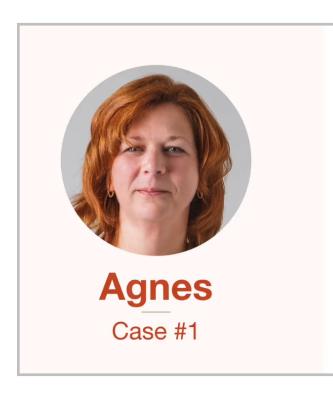


Full Case Assignments I - Part One

Hey, everybody. This week we're going to do some full case review assignments. The purpose of this section is to give you practice doing full case reviews yourself. For each case, we'll go through the summary, case review questionnaire, and labs, and then create a report of findings where you list the underlying pathologies, your recommendations for further testing, and the treatment plan, just as I did in the full case review section. After you've done that, you can then listen to or read my interpretation of the case. Note that there is no one right answer with these cases. Treatments may vary depending on your preference, if you like to do more up-front, for example, or do the treatment more sequentially and your patient population. For example, if you treat people with limited finances or highly sensitive patients who require more minimal approach, your report of findings may look slightly different than mine. That said, it should be pretty close to mine in terms of diagnosis, so if it's not, go back and review the relevant sections.



43 y.o. Female CC: Weight gain

"Puffiness" that started in January; ate horribly over holidays in December and hasn't been able to bounce back.

On **OCP** for several years, suspects hormone imbalance (recently stopped OCP, and has face got puffier).

Works out 5 times a week for 45 min at a time.

Had endometrial ablation 5 years ago to treat **heavy uterine bleeding;** C-sections in 2002 and 2004. Weight problems started after that.

Gluten-free since 2006; on and off dairy free since then; was **vegetarian** from birth to 35 years old.

Okay, here is the first case. A 43-year-old female with chief complaint of weight gain. We'll call her "Agnes." She complained of puffiness that started in January. Ate horribly over the holidays in December and hasn't been able to bounce back. She has been on oral contraception for several years and suspects hormone imbalance. Recently stopped oral contraception, and her face got puffier right after that. She works out five times a week for 45 minutes at a time. She had endometrial ablation five years ago to treat heavy uterine bleeding. C-sections in 2002 and 2004, and her weight problem started after that. She has been on a gluten-free diet since 2006, on-and-off dairy-free since then but was a vegetarian from birth to 35 years old.



bloated or thick feeling				
can't loose weight				
digestion issues				
dry scalp				
loose desire for food				
lease 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	0	\circ	\circ	0
Lower abdominal pain relieved by passing stool or gas	0	0	\circ	0
Alternating constipation and diarrhea	0	0	0	0
Diarrhea	0	0	0	0
Constipation	0	0	0	0
Hard, dry, or small stool	0	0	0	0
Coated tongue or "fuzzy" debris on tongue	0	0	0	0
Pass large amount of foul-smelling gas	0	0	0	0
More than 3 bowel movements daily	0	0	0	0
Use laxatives frequently	0	0	0	0
Category II	0	1	2	3
Excessive belching, burping, or bloating	0	0	0	0
Gas immediately following a meal	•	0	0	0
Offensive breath	0	0	0	0
Difficult bowel movement	0	0	0	0
Sense of fullness during and after meals	0	0	0	0
Difficulty digesting fruits and vegetables; undigested food found in stools	0	0	0	0
Category III	0	1	2	3
Stomach pain, burning, or aching 1-4 hours after eating	0	0	\circ	0
Use antacids	0	\circ	\circ	0
Feel hungry an hour or two after eating	0	\circ	0	0
Heartburn when lying down or bending forward	0	0	0	0
Temporary relief by using antacids, food, milk, or carbonated beverages	0	0	0	0
Digestive problems subside with rest and relaxation	0	0	0	0
Heartburn due to spicy foods, chocolate, citrus, peppers, alcohol, and caffeine		\circ	\sim	_



Pain, tenderneas, soreness on left side under rib cage Excessive passage of gas Nausea andice vomitting Stool undigested, foul smelling, mucous like, greesy, or poorly formed Frequent urination Cressed thirst and appetite Category V 0 1 2 3 Greasy or high-fat foods cause distress Lower bowel gas and/or bloating several hours after eating Bitter metallic taste in mouth, especially in the morning Burpy, fishy taste after consuming fish oils Difficulty losing weight Unexplained litchy skin Pallowish cast to eyes Stool color alternates from clay colored to normal brown Reddened akkin, especially palms Dry or flaky skin and/or halr History of gal'bladder removed? Category VI Acne and unhealthy skin Excessive hair loss Coverall sense of bloating Bodity swelling for no reason Hommons imbalances Weight gain Poor bowel function Excessively foul-amelling sweat Category VII Categor	Indigestion and fullness last 2-4 hours after eating	0 0 0 0
Nausea and/or vomiting Stool undigested, foul smelling, mucous like, greesy, or poorly formed Frequent urination Increased thirst and appetite Category V 0 1 2 3 Gressy or high-fat foods cause distress Lower bowel gas and/or bloating several hours after eating Bitter metallic taste in mouth, especialty in the morning Burpy, fishly taste after consuming fish oils Difficulty losing weight Unexplained litchy skin Yellowish cause to eyes Stool color attemates from clay colored to normal brown Reddened skin, especialty palms Dry or flaky skin and/or halr History of gallbladder attacks or stones Have you had your gallbladder removed? Category VI 0 1 2 3 Acnes and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Homone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Pain, tenderness, soreness on left side under rib cage	• 0 0 0
Stool undigested, foul smelling, mucous like, greasy, or poorly formed Frequent urination Increased thirst and appetite Category V Greasy or high-fat foods cause distress Lower bowel gas and/or bloating several hours after eating Bitter metallic taste in mouth, especially in the morning Burpy, fishy taste after consuming fish oils Difficulty losing weight Unexplained litchy skin Vellowish cast to eyes Stool color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin and/or halr History of galibladder attacks or stones Have you had your galibladder removed? Category VI A cne and unhealthy skin Excessive halr loss Overall sense of bloating Bodily swelling for no reason Homone imbalances Weight gain Poor bowel function Excessively foul-amelling sweat Category VII Q 1 2 3 Crave sweets during the day Irritable if meals are missed Get light-headed if meals are missed Get light-headed if meals are missed	Excessive passage of gas	• 0 0 0
Frequent urination Increased thirst and appetite Category V 0 1 2 3 Greasy or high-fat foods cause distress Lower bowel gas and/or bloating several hours after eating Bitter metallic taste in mouth, especially in the morning Burpy, flishy taste after consuming fish ells Difficulty losing weight Unexplained litchy skin Yellowish cast to eyes Stool color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin and/or hair History of galibladder attacks or stones Have you had your galibladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed	Nausea and/or vomiting	0 0 0 0
Increased thirst and appetite Category V 0 1 2 3 Greasy or high-fat foods cause distress Lower bowel gas and/or bloating several hours after eating Bitter metallic taste in mouth, especially in the morning Burpy, flishy taste after consuming fish oils Difficulty losing weight Unexplained litchy skin Yellowish cast to eyes Stoot color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin and/or hair History of galibladder attacks or stones Have you had your galibladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Initiable if meals are missed	Stool undigested, foul smelling, mucous like, greasy, or poorly formed	0 0 0 0
Category V Greasy or high-fat foods cause distress Lower bowel gas and/or bloating several hours after eating Bitter metallic taste in mouth, especially in the morning Burpy, fishy taste after consuming fish oils Difficulty losing weight Unexplained itchy skin Yellowish cast to eyes Stool color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin and/or halr History of galibladder attacks or stones Have you had your galibladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to ksep going/get started Get light-headed if meals are missed	Frequent urination	0 0 0 0
Greasy or high-fat foods cause distress Lower bowel gas and/or bloating several hours after eating Bitter metallic taste in mouth, especially in the morning Burpy, fishy taste after consuming fish oils Difficulty losing weight Unexplained itchy skin Yellowish cast to eyes Stool color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin andior hair History of gallbladder attacks or stones Have you had your gallbladder removed? Category VI O 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII O 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Increased thirst and appetite	0 0 0 0
Lower bowel gas and/or bloating several hours after eating Bitter metallic taste in mouth, especially in the morning Burpy, fishy taste after consuming fish oils Difficulty losing weight Unexplained litchy skin Vellowish cast to eyes Stool color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin and/or hair History of gallibladder attacks or stones Howe you had your gallibladder removed? Category VI O 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII O 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Category V	0 1 2 3
Bitter metallic taste in mouth, especially in the morning Burpy, fishly taste after consuming fish oils Difficulty losing weight Unexplained itchy skin Vellowish cast to eyes Stool color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin andior hair History of gallibladder attacks or stones Have you had your gallibladder nemoved? Category VI O 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII O 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Greasy or high-fat foods cause distress	0 0 0 0
Burpy, fishy taste after consuming fish oils Difficulty losing weight Unexplained itchy skin Yellowish cast to eyes Stool color afternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin andior hair History of gallbladder attacks or stones Have you had your gallbladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Lower bowel gas and/or bloating several hours after eating	0 0 0
Difficulty losing weight Unexplained itchy skin Yellowish cast to eyes Stool color alternates from clay colored to normal brown Reddened skin, especialty palms Dry or flaky skin and/or hair History of gallbladder attacks or stones Have you had your gallbladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-amelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if neals are missed	Bitter metallic taste in mouth, especially in the morning	0 0 0
Unexplained litchy skin Yellowish cast to eyes Stool color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin and/or hair History of gallbladder attacks or stones Have you had your gallbladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-amelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Get light-headed if meals are missed	Burpy, fishy taste after consuming fish oils	0 0 0 0
Yellowish cast to eyes Stool color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin and/or hair History of gallbladder attacks or stones Have you had your gallbladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Get light-headed if meals are missed	Difficulty losing weight	0 0 0 0
Stool color alternates from clay colored to normal brown Reddened skin, especially palms Dry or flaky skin andior hair History of gallbladder attacks or stones Have you had your gallbladder removed? Category VI O 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII O 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Unexplained itchy skin	0 0 0 0
Reddened skin, especially palms Dry or flaky skin and/or hair History of gallibladder attacks or stones Have you had your gallibladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Yellowish cast to eyes	• 0 0 0
Dry or flaky skin and/or hair History of galibladder attacks or stones Have you had your galibladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Stool color alternates from clay colored to normal brown	0 0 0
History of gallbladder attacks or stones Have you had your gallbladder removed? Yes No Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Reddened skin, especially palms	• 0 0 0
Have you had your gallbladder removed? Category VI 0 1 2 3 Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodilty swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII	Dry or flaky skin andior hair	0 0 0
Category VI Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII O 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	History of gallbladder attacks or stones	• 0 0 0
Acne and unhealthy skin Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII Crave sweets during the day Irritable if meals are missed Get light-headed if meals are missed	Have you had your gailbladder removed?	Yes O No
Excessive hair loss Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Category VI	0 1 2 3
Overall sense of bloating Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Acne and unhealthy skin	• 0 0 0
Bodily swelling for no reason Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Excessive hair loss	0 0 0
Hormone imbalances Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Overall sense of bloating	0 0 0
Weight gain Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Bodity swelling for no reason	0 0 0
Poor bowel function Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Hormone imbalances	0 0 0
Excessively foul-smelling sweat Category VII 0 1 2 3 Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Weight gain	0 0 0
Category VII 0 1 2 3 Crave sweets during the day	Poor bowel function	0 0 0
Crave sweets during the day Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed	Excessively foul-smelling sweat	• 0 0 0
Irritable if meals are missed Depend on coffee to keep going/get started Get light-headed if meals are missed		0 1 2 3
Depend on coffee to keep going/get started Get light-headed if meals are missed	Crave sweets during the day	0 0 0 0
Get light-headed if meals are missed	Irritable if meals are missed	0 0 0
	Depend on coffee to keep going/get started	• 0 0 0
Eating relieves fatigue	Get light-headed if meals are missed	0 0 0 0

Here on her case review metabolic assessment, she listed bloating, inability to lose weight, digestion issues, dry scalp, and low appetite as her main complaints. Notice she had several symptoms in the GI categories, especially Category V, which relates to gallbladder, and Category VI, which relates to liver, so there may be detox issues, and that is certainly consistent with her symptoms.



Agitated, easily upset, nervous	0 0 0 0
Poor memory/forgetful	0 0 0 0
Blurred vision	0 0 0 0
Category VIII	0 1 2 3
Fatigue after meals	0 0 0 0
rave sweets during the day	0 0 0 0
ating sweets does not relieve cravings for sugar	0 0 0 0
fust have sweets after meals	0 0 0 0
laist girth is equal or larger than hip girth	0 0 0 •
requent urination	0000
creased thirst and appetite	0 0 0 0
Difficulty losing weight	0 0 0 0
ategory IX	0 1 2 3
Cannot stay asleep	• 0 0 0
rave salt	0000
ow starter in the morning	0 0 0 0
fternoon fatigue	0 0 0 •
zziness when standing up quickly	0 0 0 0
ternoon headaches	0 0 0 0
eadaches with exertion or stress	• 0 0 0
feak nails	• 0 0 0
ategory X	0 1 2 3
annot fall asleep	0 0 0 0
terspire easily	0 0 0 0
Inder high amount of stress	0 0 0 0
Veight gain when under stress	0 0 0 •
Vake up tired even after 6 or more hours of sleep	0 0 0 0
xcessive perspiration or perspiration with little or no activity	0 0 0 0
ategory XI	0 1 2 3
dema and swelling in ankles and wrists	OO
fluscle cramping	OO
oor muscle endurance	• 0 0 0
requent urination	0 0 0 0
requent thirst	0 0 0 0
Crave salt	0 0 0 0
Abnormal sweating from minimal activity	0 0 0 0



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

A lot of symptoms in Category VII and VIII, blood sugar; IX and X, HPA axis; XI, which is cardiovascular disease, the heart category; XII, which is hypothyroid; and then XIV and XV, which are pituitary.



Feeling of incomplete bowel emptying	0 0 0 0
Leg twitching at night	• 0 0 0
Category XVII (Males Only)	0 1 2 3
Decreased libido	0 0 0 0
Decreased number of spontaneous morning erections	0 0 0 0
Pecreased fullness of erections	0 0 0 0
Officulty maintaining morning erections	0 0 0 0
Spells of mental fatigue	0 0 0 0
nability to concentrate	0 0 0 0
pisodes of depression	0 0 0 0
fluscle soreness	0 0 0 0
Decreased physical stamina	0 0 0 0
Inexplained weight gain	0 0 0 0
ncrease in fat distribution around chest and hips	0 0 0 0
Sweating attacks	0 0 0 0
fore emotional than in the past	0 0 0 0
Category XVIII (Menstruating Females Only)	0 1 2 3
Perimenopausal	YesNo
liternating menstrual cycle lengths	Yes O No
extended menstrual cycle (greater than 32 days)	Yes O No
Shortened menstrual cycle (less than 24 days)	Yes No
Pain and cramping during periods	• 0 0 0
Scanty blood flow	0 0 0 •
Heavy blood flow	• 0 0 0
Breast pain and swelling during menses	0 • 0 0
Pelvic pain during menses	• 0 0 0
Irritable and depressed during menses	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
low many years have you been menopausal?	11 years years
Since menopause, do you ever have uterine bleeding	Yes O No
Hot flashes	0 0 0 0
Mental fogginess	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
Shrinking breasts	• 0 0 0
Facial hair growth	0 0 0
Acne	• 0 0 0
Increased vaginal pain, dryness, or itching	0 0 0 0
0-1 How many alcoholic beverages do you consume per reek?	0-1 How many caffeinated beverages do you consume per day?
5-7 How many times do you eat out per week?	2-4 How many times a week do you eat raw nuts or seeds?
0-1 How many times a week do you eat fish?	5 How many times a week do you workout?
ist the three worst foods you eat during the average week: Cheese	, bread , sweets
to you smoke? Yes No to you currently have mercury amalgams (fillings) Yes No lave you had mercury amalgam fillings removed in the past? Yes tate your levels of stress on a scale of 1-10 during the average week:	
none now. But I was taking hormones for over 5 years I apply once a day. (I have stopped and have been off	since the end of July 2016.
lease list any natural supplements you currently take and for what cond I have taken many for many years. But lately I have st	opped because I just really know what to take any more.
In the past it has been: Not taking really any more.	

Some symptoms in XVIII and XIX, which are hormone categories. She marked answers for both menstruating and menopausal categories due to the endometrial ablation. She is not in menopause necessarily but doesn't bleed because of the ablation.

Not much alcohol. Eats out fairly regularly. Doesn't eat a lot of fish. Had mercury amalgams removed in the past, so you'd definitely want to pay attention to that given that it is usually not done properly, and it usually exposes patient to quite a bit of mercury.

Again, she was taking oral contraception before but is not now and is taking a few supplements such as fish oil, magnesium, and probiotics.



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. Seldom Frequent Often Occas. Never Alcoholic Beverages 0 Eat Out at Restaurants 0 Pastries, Cookies, Candy, Ice Cream and Other Sweets 0 White Flour: Bread, Pasta, Pancakes, Crackers, Muffins, etc. Add Sugar to Coffee, Tea, Cereals, or Other Foods 0 Sodas or Soft Drinks Diet Soft Drinks Fruit Juices Artificial Sweeteners (NutraSweet, Saccharin, etc) 0 Natural Sweeteners (Honey, Maple Syrup, Agave, etc) 0 Breakfast Cereals (Hot or Cold) 0 Packaged Foods: Chips, Crackers, Puffs, Pretzels 0 Vegetable Oils (Sunflower, Safflower, Canola, Corn, Soy) 0 Margarine or Tub Vegetable Oil Spreads Deep-Fried Foods Olive Oil Avocados Saturated Fats (Butter, Ghee, Lard, Coconut, Palm, Tallow) Fatty Fish (Salmon, Mackerel, Sardines, Herring) Nuts and Seeds, Nut/Seed Butters Pasteurized Dairy (Check: Nonfat, Low-Fat, 🛂 0 0 0 Whole) Raw Dairy Products (Check: Nonfat, Low-Fat, 0 0 0 0 Whole) Fermented Dairy Products (Yogurt, Kefir, Cheese) Eggs (Check: Free-Range, Pastured, Organic, or 0 0 0 Conventional) Poultry or Fowl (Chicken, Turkey, Duck, etc) Pork Red Meat (Beef, Lamb) 0 Processed Meats (Bacon, Sausage, Salami, Ham, etc) 0 0 Organ Meats (Liver, Kidney, Sweetbreads, etc) Soy Products (Tofu, Tempeh, Soy Milk, Edamame)



		0	0	0	0	0
Fermented Vegetables (Sauerkraut, Ki	m Chi, etc)	0	0	0	0	0
Non-Starchy Vegetables (Greens, Squ	ash, Carrots)	0	0	0	0	0
Starchy Vegetables (Potatoes, Yams,	Sweet Potatoes)	0	0	0	0	0
Fresh Fruits		0	0	0	0	0
Beans and Legumes		0	0	0	0	0
Whole Grains and Whole Grain Breads	s (Wheat, Gluten)	0	0	0	0	0
Alternative Grains (Quinoa, Buckwhea	t, Teff, etc)	0	0	0	0	0
Herbs and Spices (Fresh or Dried)		0	0	0	0	0
Chocolate (Check: Milk or 💟 Dar	k)	0	0	0	0	0
Herbal Teas		0	0	0	0	0
Coffee (Check: Regular or 🛂 De	caffeinated)	0	0	0	0	0
Caffeinated Teas (Check: Black or	Green)	0	0	0	0	0
Salt (Check: Olodized or Sea Se	alt)	0	0	0	0	0
Dairy-free	Paleo					
☑ Gluten-free	GAPS					
If you checked any, how long have you I have done the paleo off and o since the testing with you.	u been on this diet? on for three years. Glute				ımmer in Eur	rope and
f you checked any, how long have you I have done the paleo off and o	u been on this diet? on for three years. Glute ou on it? For example: 80/20,				ımmer in Eur	rope and
If you checked any, how long have you I have done the paleo off and o since the testing with you. If you checked any, how strictly are you should be simply and you have you have a solid paleo, gluten free 100%. Please check any and all boxes below	on for three years. Glute on it? For example: 80/20, before a year ago.	or all the tir	ne, except cert		ımmer in Eur	rope and
f you checked any, how long have you I have done the paleo off and o since the testing with you. If you checked any, how strictly are you should be sinced any, how strictly are you should be shou	on for three years. Glute on it? For example: 80/20, before a year ago.	or all the tir	ne, except cert		ımmer in Eur	rope and
If you checked any, how long have you I have done the paleo off and o since the testing with you. If you checked any, how strictly are you should be simply and you have you have a solid paleo, gluten free 100%. Please check any and all boxes below	on for three years. Glute on for three years. Glute ou on it? For example: 80/20, before a year ago.	or all the tire	ne, except cert		ımmer in Eur	rope and
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If you checked any, how long have you I have done the paleo off and a since the testing with you. If you checked any, how strictly are you sold the since the testing with you. If you checked any, how strictly are you sold the	on for three years. Glute on for three years. Glute ou on it? For example: 80/20, before a year ago.	or all the tire	ne, except cert	e of the night	ımmer in Eur	rope and
If you checked any, how long have you I have done the paleo off and of since the testing with you. If you checked any, how strictly are you sold the strictly are you sold to be sold to b	on for three years. Glute on for three years. Glute ou on it? For example: 80/20, before a year ago. that describe your current e a TV or computer, or ong times, portion sizes,	or all the tire taking styles Factor Eat Eat	st eater t too much t in the middle	e of the night		rope and
I have done the paleo off and a since the testing with you. If you checked any, how strictly are you should be since the testing with you. If you checked any, how strictly are you should be shou	been on this diet? on for three years. Glute on on it? For example: 80/20, before a year ago. that describe your current e a TV or computer, or ng times, portion sizes, way from home	or all the tire string styles Fast East Tra Door	st eater t too much t in the middle evel Frequent n't care to coo	e of the night	amed	

Diet survey: Notice that she said she is frequently eating pastries, cookies, and candy. Eats out at restaurants and eats white flour and bread often, so definitely some issues with diet, yet she says she is on 80/20 Paleo. This is another situation where there is a little bit of a disconnect between what she says and what she marks on the diet survey. If she is eating pastries, cookies, and candy frequently and eating white flour and bread often, that seems more like 60/40 or 50/50 to me.



Often you need to do further investigation and discussion with patients to get to the bottom of it, as you know.

Don't eat breakfast or dinner together as a fa unit	mily Don't share same meals, even if seated together at table (special dietary needs and/or food preferences)
Emotional eater (when sad, bored)	 Have a negative relationship to food
Diet often for weight control	 Struggle with eating issues or history of eating disorders
Z Eat too much or too little under stress	



Desc	ribe a typical breakfast (including what time you eat it).
7:45	am water am smoothie (spinach/baby kale or lettuce with some kind of unsweetened nut milk/almond/cashew/or nut, frozen blueberries or strawberries, unsweetened coco powder, dates, cinnamon)
Do y	ou have a morning snack? Yes No Sometimes
More	e of my smoothie and water or tea (herbal or green sun tea)
Desc	ribe a typical lunch (including what time you eat it).
and treat	days, Tuesdays and Thursday (the days I see clients) may have rice with raw tuna. Or Rice with chicken almond cream cheese and avocado. Or some raw almonds. Or an apple. Often I may have 1-2 taffy's as a at work. Lots of water or tea every hour. I don't think I often eat enough at work so I am very hungry when off at 9pm.
	nesdays and Fridays I often will eat out with my boys or a friend. Thai curry or sushi or Mexican with meat lly chicken.
On r	ny days off I often won't eat for a while since breakfast so am very hungry.
	kends I am all over the place with lunch. Often it is out with my boys. Mexican (rice, meat, salsa, avocado) such as chocolate.
Do y	ou have an afternoon snack? Yes No Sometimes
corn	chips or apple or chocolate or taffy
Desc	ribe a typical dinner (including what time you eat it).
	sh day, Tuesday and Thursday I don't eat much for dinner. Maybe a sausage with mustard and ketchup. Or in free rice crackers with almond cream cheese or unsalted butter.
Rice	sh nesday, Friday, Saturday and Sunday typical meals are: with chicken and some kind of vegetable or salad k with potatoes
Do y	ou eat a bedtime snack? Yes No Sometimes
	ou eat dessert after: lunch? dinner? both? "I don't eat dessert" lescribe what you eat for dessert
	will have chocolate or taffy

She has a smoothie for breakfast, which is not ideal for weight loss. Higher protein intake is a better option, as you know. Lunch and snack could definitely be better. Dinner is also inconsistent, and she is eating taffy candy regularly.



	Yes	No	Unknown
 Do you have exposure to the interior building of a water damaged building and/or microbial growth? If yes, please answer he next three (3) questions: 	0	0	0
a. Do you have samples/evidence of spore or genus and species of fungus (air test, ERMI test, etc.)	0	0	0
b. Is there visible microbial growth (mold)?	0	0	0
c. Is there a presence of musty smells?	0	0	0
2) Do you remember a tick bite occurring before your illness beginning? If yes, please answer the next two (2) questions:	0	0	0
a. Did you have an unexplained rash after the bite?	0	0	0
b. Did you experience flu-like illness after the bite?	0	0	0
I) Have you had a brown recluse or other poisonous spider bite? If yes:	0	0	0
Did you experience flu-like illness after the bite?	0	0	0
I) Did you become ill after eating fish?	0	0	0
i) Did you become ill after exposure to a body of fresh water?	0	0	0
i) Did you become ill after exposure to the ocean during a 'Red Tide' or other bloom?	0	0	0
Did you become ill after exposure to an estuary fish kill?	0	0	0
I) Did you become ill after exposure to a closed shell fish bed area?	0	0	0
ASSOCIATED ILLNESSES			
lease mark yes or no:			
liness	Yes		No
Tick borne Illness	0		0
yme Disease	0		0
Fibromyelgia	0		0
Chronic Fatigue Syndrome	0		0
3ulf War Syndrome	0		•
Chemical Sensitivity	0		0
Sick Building Syndrome	0		0
Fungus or Mycotoxicosis	0		0
Depression	0		0
Chronic Soft Tissue Injury	0		•
rritable Bowel Syndrome	0		0
	\cap		0
Bacteria			



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

No environmental exposure to speak of here.



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: Batchlors in Science: Home Economics, Master's in Education: Marriage and Family Therapist

Profession: Lic. Marriage and Family Therapist

Interests (sports, hobbies, etc.):

meditation, traveling, reading fiction, spending time with friends, kundalini yoga, working on my book, designing cloths, love fabrics, dancing (but I don't get to do this really)

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

bloated belly can't loss weight digestions problems hormone issues dry skin hair falls out at different times of the year

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

5 years old in India had hepatitis B

11-12 years old had multiple issues with strep throat and was put on antibiotics many times (average of 5 times in one year I think) (they put me in the hospital once) (I was in boarding school then in Albuquerque) 16 years old used to get bad stomach aches they didn't know what was wrong with me in the US. When I went home to Germany an eyerdologist said I had yeast in my intestines and gave me natural medicine (I don't know what it was) and it helped.

16 years old was depressed and attempted suicide (this has not been an issue ever since) I was in a bad boarding school situation and after this went home.

21 years old boy friend gave me herpes (he was a cheater)

22 years old got pregnant and had an abortion (it was painful, I felt 100% ok with getting it (I had used protection but it didn't work) After it happened I did have some issues like pain and that is when I started gaining weight for the very first time in my life. Periods were still normal after that.)

25 years old got a very bad cold and was sick for over a week. A doctor currently thinks I had namonia and it wasn't treated. Looking back I should have gone to the dr.

30 years old had first boy (healthy pregnancy but then emergency c-section - all was fine after it. Lost weight normally and could eat everything)

32 years old had 2nd boy (scheduled c-section and all was normal but different doctor and they attached this pump which was pumping antibiotics into me for 3+ days straight into my c-section scare. I don't remember saying yes to this or anything about it until we were leaving the hospital. All my food issues started after this.) 33 years old started working with a Nutritionist in Santa Fe and he said I was allergic to gluten and soy (I was a vegetarian at the time and had been my whole life) I went off gluten, soy and dairy) Ate veggies and rice only Lost a bunch of weight but emotionally still felt off. He said my hormones where off. He put me on vitamins but I don't remember what. Didn't really help. After a bunch of years he suggested I try seeing an OB and getting hormones

37'sh years old saw an OB and they checked my estrogen and I had none. They put me on some and I felt better withing 12 hours.

39 years old (i think) I had weird periods and they found big blood clots and I had to have them removed. They said for me to then agree to cotorize the lining of my uterus so I wouldn't bleed any more. I did. I have not had a period since.



41'sh years old I started having issues again with weight and mood. They checked my hormones and I progesterone and testosterone was low. They add that.

43 years old I can't loss weight I am working out, which usually would do the trick but nothing. I am having digestion problems. ect..

hypoglycemia (most of my life, I would agree when I don't eat I get crabby)

Allergy to gluten and soy (after I had my 2nd son 11 years ago, Yes for many years but I was off of it for so long I don't feel it affects me so much -the gluten)

Hormone issues: irritability, short with my family, angry (after my 2nd son was born: I agree because when I started estrogen I felt better within 12 hours) (after 2-3 years on only estrogen my progression and testosterone lowered)

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

I feel like something is not working right inside me. I feel like I am not burning fat and I end up feeling bloated or Thick. I don't feel fat but I am a lot bigger then I would like to be. My skin is dry, I eat pretty healthy 80% of the time and think I should feel a lot better.

It is my digestions

my bloating (stomach and cells)

Tired (maybe adrenals still off) (my kidneys hurt every now and then) (I do pee a lot)

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

Estrogen at one time

working out

Diet (but when I go back to my old eating it switches again but the diet is so intense and hard to do for ever I feel)

Everything else hasn't really helped with things.

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

yoyo dieting for clean eating

(I feel like no one has really known what is wrong with my gut since I had my son. Almost just masking it all where for 3-6 months I look good and feel good with supplements and diet but then it all goes back)

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

- 22 years old abortion
- 30 years old c-section
- 32 years old c-section
- 48 years old uterus procedure (I don't know the name of it)

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 don't think any have looked at my stomach and intestines to see why they are not functioning. They just guess.

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

I want to have someone care about my and help me figure out why I have digestive issues and weight issues which was not normal for all my life until I had that abortion. It has been up and down ever since, and then got worse with 2nd c-section.

She had hepatitis B in India. Took multiple courses of antibiotics when she was 11 to 12 years old. She attempted suicide at 16 years old, so there is some history of depression, although she hasn't complained of it since then. Herpes at 21. Abortion at 22. Two C-sections with antibiotics, and that preceded her weight issues, so given what we know about the microbiome, you'd obviously want to focus on gut. History of low estrogen and hormone imbalance.



I thir	sk 3-6 months for some kind of change and 1 year for lasting change
Are y	ou prepared to pay for the laboratory testing, consulting fees and nutritional supplements that may be required to successfully manage youn?
l hav	re just agreed to a bunch. Each stage I would like to look at work needs next. I need to be explained why a test after these test are done are needed. I don't want to go in a circle. I have done this already.
On a	scale of 1 to 10, how committed are you to recovering your health? 10 Why?
grea knov	tired of feeling this way. I have committed to working out and have been solid for over 6 months. I feel t when I go. Because I have worked on it since my 2nd son was born and I just feel like no one really has wn what is wrong with me. I have done diets for years. I have taken this and that supplements for different is and I feel better for short time but it goes away. Sometimes I can't keep it up.
What	obstacles or beliefs, if any, stand in the way of you recovering your health?
diction	ork on my self for 3-5 months and nothing changes I loose hope. I am willing to work hard and follow on but I need to see something change and change for good. I feel like I have done so much and it all just es me sad when I feel here I am still trying to figure it out.
Are th	here emotional or psychological issues that may be contributing to your health problems? If so, please explain them briefly.
beer is he beer	had every day stress in my life. I work hard and have a full practice. I am also raising two boys. I have a married for over 20 years. Money is tight at times and then great at other times. I do a lot for my self that ealthy and good emotionally and spiritually. This helps me relax and feel happy inside. My older son has a handful most of his life. The fights and stress is hard for me and I can feel the stress from him in my gut in my back on the sides. As he gets older he is getting easier which helps.
Do yo	ou enjoy your work? Do you believe your work contributes to your health problems?
	e what I do. I enjoy helping people a lot. I love my projects that I have. Creating meditation products for rs and sharing them. The meditation work is my passion.
Do yo	ou have a purpose in life?
l wa	nt to teach the world to meditate and that chanting is normal and main stream.
) Who	ere else do you find support? Friends? Church or religious group? Nature?
Husl	band, my parents, friends
l) How	did you feel about answering all of these questions and the case review process?
Elec	. I really want to fix or find out what is wrong with my body. I am so tired of feeling this way. I was 100% fit

She is highly committed, and her expectations are reasonable. She does have a lot of stress in her life, so again, you'd want to pay attention to that.



Marker	Value	Functional Range	Lab Range
Glucose	82	75 - 90	65 - 99
Hemoglobin A1c	5.4	4.4 - 5.4	4.8 - 5.6
Uric Acid	6.7	3.2 - 5.5	2.5 - 7.1
BUN	14	13 – 18	6 - 24
Creatinine	0.81	0.7 – 1.0	0.57 - 1
BUN/Creatinine Ratio	17	9 – 23	9 - 23
eGFR if Non-African American	89		> 59
eGFR if African American	103		> 59
Sodium	139	135 – 140	134 - 144
Potassium	4.2	4.0 - 4.5	3.5 - 5.2
Chloride	99	100 – 106	97 - 108
C02	23	25 – 30	18 - 29
Calcium	9.5	9.2 – 10.1	8.7 - 10.2
Parathyroid Hormone, Intact	37	30 - 60	15 - 65
Phosphorus	2.8	3.0 - 4.0	2.5 - 4.5
Magnesium	2.0	2.0 - 2.6	1.6 - 2.3
Protein, total	7.2	6.9 - 7.4	6.0 - 8.5
Albumin	4.7	4.0 - 5.0	3.5 - 5.5
Globulin	2.5	2.4 - 2.8	1.5 - 4.5
A/G ratio	1.9	1.5 – 2.0	1.1 - 2.5
Bilirubin, total	0.5	0.1 – 1.2	0.0 - 1.2
Alkaline Phosphatase	55	42 – 107	39 - 117
LDH	179	140 - 180	119 - 226
AST	26	0 - 23	0 - 40
ALT	22	0 - 20	0 - 32
GGT	21	0 - 21	0 - 60
TIBC	326	275 – 425	250 - 450
UIBC	228	175 - 350	131 - 425
Iron	98	40 – 135	27 - 159
Iron saturation	30	17 – 45	15 - 55
Ferritin	80	30 - 100	15 - 150
Vitamin B-12	344	450 – 2000	211 - 946
Folate, Serum	12.4	> 5.0	> 3.0
Calcitriol (1,25 di-OH Vitamin D)	57	19.9 - 79.3	19.9 - 79.3
Vitamin D, 25-hydroxy	27.5	35 - 60	30.0 - 100.0
Cholesterol, total	243	150 - 230	100 - 199
Triglycerides	109	50 – 100	0 - 149
HDL	69	55 – 85	> 39
LDL	152	0 - 140	0 - 99
T. Chol / HDL Ratio	3.5	< 3	0 - 4.4
Triglycerides / HDL Ratio	1.58	< 2	< 3.8



Marker	Value	Functional Range	Lab Range
CRP-hs	3.57	< 1.0	0.00 - 3.00
Homocysteine	12.0	< 7.0	0.0 - 15.0
TSH	1.970	0.5 – 2.0	0.45 - 4.50
T4, total	8.6	6.0 - 12	4.5 - 12
T3 Uptake	31	28 - 35	24 - 39
T3, Total	104	100 – 180	71 - 180
T3, Free	3.1	2.5 - 4.0	2 - 4.4
T4, Free	1.23	1 - 1.5	0.82 - 1.77
Reverse T3	19.1	9 - 21	9.2 - 24.1
Thyroid – TPO Ab	<6		0 - 34
Thyroid – TGA	<1.0		0 - 0.9
Copper	117	81 - 157	72 - 166
Zinc	96	64 - 126	56 - 134
Zinc / Copper Ratio	0.82	> 0.85	
Serum Methylmalonic Acid (MMA)	171	< 300	0 - 378
WBC	7.1	5.0 - 8.0	3.4 - 10.8
RBC	5.07	4.4 – 4.9	3.77 - 5.28
Hemoglobin	15.4	13.5 - 14.5	11.1 - 15.9
Hematocrit	44.6	37 - 44	34 - 46.6
MCV	88	85 – 92	79 - 97
MCH	30.4	27.7 - 32.0	26.6 - 33.0
MCHC	34.5	32 – 35	31.5 - 35.7
RDW	13.3	11.5 – 15.0	12.3 - 15.4
Platelets	304	150 – 415	150 - 379
Neutrophils	71	40 – 60	
Lymphocytes	21	25 – 40	
Monocytes	5	4.0 – 7.0	
Eosinophils	2	0.0 - 3.0	
Basophils	1	0.0 - 3.0	

B12 levels, serum B12, are borderline low at 44. AST and ALT are functionally high, just barely elevated. It could be fatty liver given her weight issues. That is the most likely cause here.

Her 25(OH)D is low at 27.5, and PTH is 37, which is suggestive of deficiency.

Total cholesterol is 243, and total cholesterol-to-HDL ratio is 3.5. Triglycerides are functionally high at 109, so that is not optimal. It could be a sign of metabolic dysfunction and dyslipidemia, especially given her weight.

CRP is high at 3.57, and zinc-to-copper ratio is slightly low, which is indicative of inflammation, and homocysteine being high-normal at 12.0, that is an inflammatory protein, as you know.

Serum folate is normal, but B12, as we discussed, is borderline low. Serum MMA is normal, so you'd want to look at urine MMA and possibly FIGLU.

Red blood cells, hemoglobin, and hematocrit are slightly high. That is probably dehydration.



For follow-up, we'd look at urine MMA, probably a True Health Diagnostics* lipid and metabolic panel. Her blood sugar is normal here, but given her weight issues, you'd want to check fasting insulin, leptin, and other biomarkers that can precede glucose and A1c abnormalities in terms of metabolic dysfunction and possibly a functional methylation panel.

<* Note: True Health Diagnostics is no longer in business. See this post for the latest updates.>





Comprehensive Stool Analysis / Parasitology x3

PARASITOLOGY/MICROSCOPY Sample 1 None Ova or Parasites Few Yeast Sample 2 None Ova or Parasites Mod Yeast Sample 3

None Ova or Parasites

Few Yeast

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

Her stool test was surprisingly good given her symptoms here except that she does have moderate fungal overgrowth. She has good levels of beneficial bacteria. No dysbiotic flora and not much commensal. No parasites but does have that moderate fungal overgrowth.



Comprehensive Stool Analysis / Parasitology x3

			DIGESTION /ABSORPTI	ON
	Within	Outside	Reference Range	Elastase findings can be used for the diagnos or the exclusion of exocrine pancreat
Elastase	> 500		> 200 μg/mL	insufficiency. Correlations between low leve and chronic pancreatitis and cancer have bee reported. Fat Stain: Microscopic determination
Fat Stain	Mod		None - Mod	of fecal fat using Sudan IV staining qualitative procedure utilized to assess absorption and to detect steatorrhea. Mr.
Muscle fibers	None		None - Rare	fibers in the stool are an indicator of incomple digestion. Bloating, flatulence, feelings "fullness" may be associated with increase
Vegetable fibers	Rare		None - Few	muscle fibers. Vegetable fibers in the stool ma be indicative of inadequate chewing, or eating
Carbohydrates		Int	Neg	"on the run". Carbohydrates: The presence reducing substances in stool specimens caindicate carbohydrate malabsorption.
			INFLAMMATION	
	Within	Outside	Reference Range	Lactoferrin and Calprotectin are reliab
Lactoferrin	< 0.5	Outside	<7.3 μg/mL	markers for differentiating organic inflammatic (IBD) from function symptoms (IBS) and fi management of IBD. Monitoring levels of fec lactoferrin and calprotectin can play an essenti
Calprotectin*	< 10		<= 50 μg/g	role in determining the effectiveness of therap are good predictors of IBD remission, and ca indicate a low risk of relapse. Lysozyme* is a
Lysozyme*	271		<= 600 ng/mL	enzyme secreted at the site of inflammation the GI tract and elevated levels have bee identified in IBD patients. White Blood Cel
White Blood Cells	None		None - Rare	(WBC) and Mucus in the stool can occur wi bacterial and parasitic infections, with mucos irritation, and inflammatory bowel diseases suc
Mucus	Neg		Neg	as Crohn's disease or ulcerative colitis.
			IMMUNOLOGY	
	Within	Outside	Reference Range	Secretory IgA* (sIgA) is secreted by mucos tissue and represents the first line of defense
				the GI mucosa and is central to the norm
Secretory IgA*	159		51 - 204 mg/dL	the GI mucosa and is central to the norm function of the GI tract as an immune barrie Elevated levels of slgA have been associate with an upregulated immune response.

Antigen 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.



Comprehensive Stool Analysis | Parasitology x3 SHORT CHAIN FATTY ACIDS Within Outside Reference Range Short chain fatty acids (SCFAs): SCFAs are the end product of the bacterial fermentation process of dietary fiber by beneficial flora in the % Acetate 64 40 - 75 % gut and play an important role in the health of the GI as well as protecting against intestinal dysbiosis. Lactobacilli and bifidobacteria produce % Propionate 9.6 9 - 29 large amounts of short chain fatty acids, which decrease the pH of the intestines and therefore make the environment unsuitable for pathogens, 25 % Butyrate 9 - 37 including bacteria and yeast. Studies have shown that SCFAs have numerous implications in maintaining gut physiology. SCFAs decrease % Valerate 1.1 0.5 - 7 % inflammation, stimulate healing, and contribute to normal cell metabolism and differentiation. Levels of Butyrate and Total SCFA in mg/mL are Butyrate 4.0 0.8 - 4.8 mg/mL important for assessing overall SCFA production, and are reflective of beneficial flora levels and/or Total SCFA's 16 4 - 18 mg/mL adequate fiber intake. INTESTINAL HEALTH MARKERS Red Blood Cells (RBC) in the stool may be Within Outside Reference Range associated with a parasitic or bacterial infection, or an inflammatory bowel condition such as Red Blood Cells None None - Rare ulcerative colitis. Colorectal cancer, anal fistulas, and hemorrhoids should also be ruled out. pH: Fecal pH is largely dependent on the 6 - 7.8 pΗ 5.1 fermentation of fiber by the beneficial flora of the gut. Occult blood: A positive occult blood indicates Occult Blood Neg the presence of free hemoglobin found in the stool, which is released when red blood cells are lysed. MACROSCOPIC APPEARANCE Color: Stool is normally brown because of Appearance Expected pigments formed by bacteria acting on bile introduced into the digestive system from the liver. While certain conditions can cause Color Brown Brown changes in stool color, many changes are harmless and are caused by pigments in foods or dietary supplements. Consistency: Stool Formed/Soft Consistency Soft normally contains about 75% water and ideally should be formed and soft. Stool consistency can vary based upon transit time and water absorption.

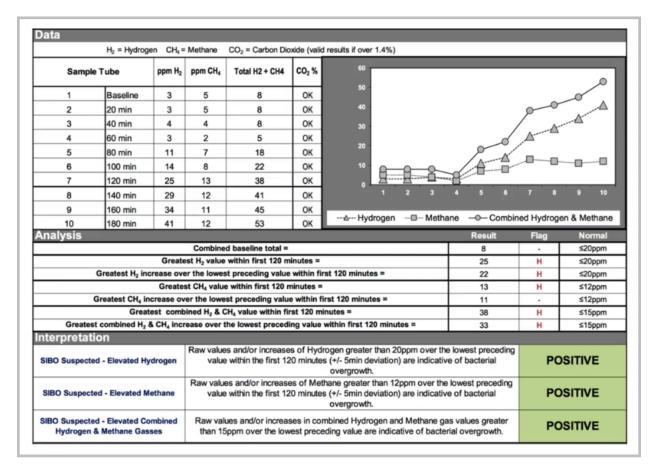
She has some carbohydrate malabsorption and low intestinal pH, which is consistent with fungal overgrowth, and her H. pylori is negative.



TEST	RESULT			
Array 4 – Gluten-Associated Cross-Reactive Foods and Foods Sensitivity **	IN RANGE (Normal)	EQUIVOCAL*	OUT OF RANGE	REFERENCE (ELISA Index)
Rye, Barley, Spelt, Polish Wheat	1.06			0.4-1.4
Cow's Milk	0.14			0.1-1.3
Casein (Alpha & Beta)	0.36			0.1-1.7
Casomorphin	<0.20			0.2-1.6
Milk Butyrophilin	0.27			0.2-1.8
Whey Protein	0.11			0.1-1.3
Chocolate (Milk)	0.13			0.1-1.4
Oats	0.64			0.2-1.0
Yeast	0.36			0.2-1.2
Coffee	0.81			0.3-1.9
Sesame	0.69			0.1-1.3
Buckwheat	0.80			0.4-1.3
Sorghum	0.42			0.3-1.2
Millet	0.56			0.3-1.5
Hemp	0.59			0.3-1.5
Amaranth	0.52			0.2-1.3
Quinoa	1.11			0.5-1.5
Tapioca		0.81		0.1-1.1
Teff	0.79			0.2-1.1
Soy	0.91			0.5-1.5
Egg	0.61			0.2-1.7
Corn	0.44			0.3-1.4
Rice	0.61			0.4-1.6
Potato	0.47			0.6-1.4

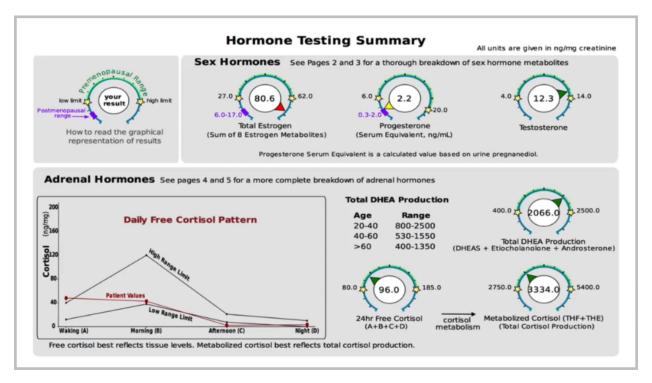
Cyrex Array 4 revealed equivocal antibodies to tapioca, which would extend to cassava and yucca.





SIBO breath test results are marked as positive according to the QuinTron criteria, but I think they are somewhat equivocal because all we see here is just a late single peak in both hydrogen and methane. On her metabolic assessment, she marked both constipation and diarrhea, so you'd need to ask her about her transit time in order to interpret results. Remember, mean orocecal transit time, according to studies, is 75 minutes, and we don't see a significant increase in her hydrogen or methane until 120 minutes, and lactulose could very well be in her colon by then. My guess is she doesn't have SIBO, but given her symptoms and the presence of fungal overgrowth on the stool test, I would probably do an antimicrobial protocol anyhow.



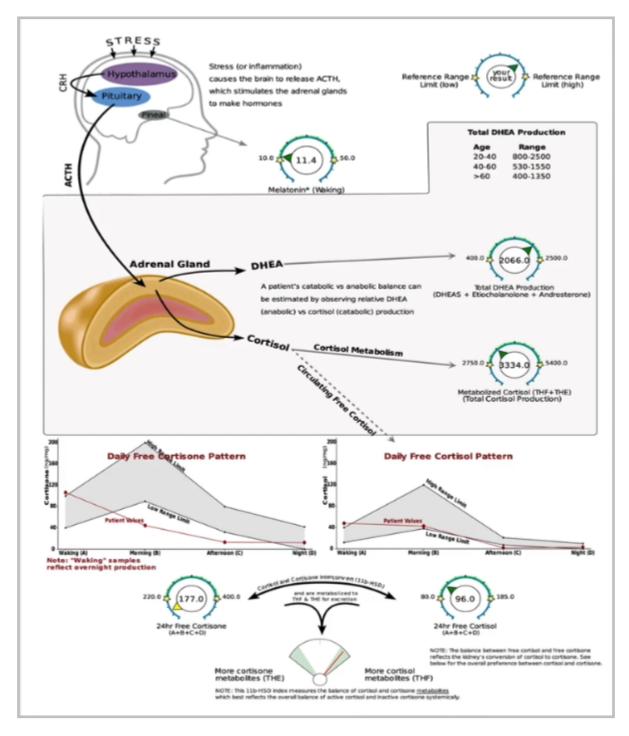


DUTCH results: Her total estrogens are high, and that is not unusual with oral contraceptive use and history of that. Her progesterone is low, so she has a relative condition of estrogen dominance. Her free cortisol is normal but toward the low end of the range. Metabolized cortisol is normal toward the low end. Her total DHEA is normal. Her rhythm is a little bit dysregulated, but I'm not sure if that is significant. Slightly high waking cortisol. If her nighttime cortisol was also high, I would be concerned about high cortisol throughout the nighttime period, but her nighttime cortisol is low-normal. Afternoon cortisol is slightly low, so there may be an issue there, but it may be nonpathological too.



Category	Test		Result	Units	Normal Range
Creatinine					
	Creatinine A (Waking)	Within range	0.71	mg/ml	0.2 - 2
	Creatinine B (Morning)	Within range	0.35	mg/ml	0.2 - 2
	Creatinine C (Afternoon)	Within range	0.28	mg/ml	0.2 - 2
	Creatinine D (Night)	Below range	0.17	mg/ml	0.2 - 2
Daily Free C	ortisol and Cortisone				
	Cortisol A (Waking)	Above range	48.0	ng/mg	12 - 40
	Cortisol B (Morning)	Low end of range	42.7	ng/mg	38 - 120
	Cortisol C (Afternoon)	Below range	2.1	ng/mg	7.3 - 21
	Cortisol D (Night)	Within range	3.3	ng/mg	0 - 10
	Cortisone A (Waking)	Above range	106.5	ng/mg	40 - 100
	Cortisone B (Morning)	Below range	44.5	ng/mg	90 - 200
	Cortisone C (Afternoon)	Below range	13.1	ng/mg	32 - 80
	Cortisone D (Night)	Within range	12.5	ng/mg	0 - 42
	24hr Free Cortisol	Low end of range	96.0	ug	80 - 185
	24hr Free Cortisone	Below range	177.0	ug	220 - 400
Cortisol Met	abolites and DHEAS				
	b-Tetrahydrocortisol (b-THF)	Within range	1434.0	ng/mg	1050 - 2070
	a-Tetrahydrocortisol (a-THF)	Within range	188.0	ng/mg	75 - 265
	b-Tetrahydrocortisone (b-THE)	Low end of range	1712.0	ng/mg	1550 - 3150
	Metabolized Cortisol (THF+THE)	Within range	3334.0	ng/mg	2750 - 5400
	DHEAS	Within range	170.0	ng/mg	23 - 350
Melatonin (*	measured as 6-OH-Melatonin-Sulfate)				
	Melatonin* (Waking)	Low end of range	11.4	ng/mg	10 - 50





Her 24-hour free cortisone is well below the range, so that biases our free cortisol interpretation, which is already low-normal, even further lower. I would say that this does point more toward a low cortisol picture. Look at her daily free cortisone rhythm. It is pretty low in the morning and in the afternoon, which biases those free cortisol time points lower too. Factors that favor more cortisol than cortisone include hypothyroidism, which we didn't see any evidence for on her blood work; inflammation, which we did see some evidence for; visceral obesity, which she has going; high



insulin, which is a possibility—we didn't test for it on the blood work; excess sodium; and licorice, which increases the half-life of cortisol. She is not taking licorice. She does have inflammation and possibly high insulin. She is not obese, but she is overweight.



CASE REVIEW REPORT OF FINDINGS

Patient Name: "Agnes" Date: 10-13-16

Underlying Patterns

PATTERN	SUPPORTING MARKERS	COMMENTS
Impaired methylation	Homocysteine	
Possible B12 deficiency	B12	
Vitamin D deficiency	25D, PTH	
Possible NAFLD	AST/ALT	
Functional dyslipidemia	TC:HDL ratio, triglycerides	
Inflammation	CRP, zinc-copper ratio	Secondary to fungal overgrowth?
Dehydration?	RBC, Hgb, Hct	
Fungal overgrowth	DD CSAP	
SIBO?	NUNM breath test	
Cortisol/cortisone imbalance	DUTCH	
Cortisol dysregulation	DUTCH	
Tapioca intolerance	Cyrex Array 4	aka cassava, yuca

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Recommendations for further testing

TEST	PURPOSE	COMMENTS
Urine MMA	B12 levels	
THD lipid/metabolic panel	Advanced lipid/metabolic markers	
HDRI methylation panel	Methylation pathways	

Recommendations for Treatment

TREATMENT	PURPOSE	COMMENTS
Paleo Reset Diet	Weight loss, gut health, nutrient density	
Antimicrobial protocol	Fungal overgrowth, possible SIBO	See handout
Increase fish intake	Vitamin D, EPA/DHA	At least 12 oz./wk cold-water, fatty fish
EVCLO	Vitamin D, EPA/DHA	1 tsp/d
Adequate hydration	Dehydration	
Avoid tapioca	Intolerance	Can reintroduce in 60 days and check for symptoms
Organ meats & shellfish	Increase B12 levels	Or supplement with 2,000 mcg/d of hydroxy B12
Stress management	Manage stress, regulate HPA axis	See handout

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Here is the report of findings. Impaired methylation because of homocysteine. Possible B12 deficiency with serum B12. Vitamin D deficiency with 25(OH)D and parathyroid hormone. Possibly nonalcoholic fatty liver disease with AST and ALT. You'd want to help with weight loss and then retest that. Functional dyslipidemia with total cholesterol-to-HDL ratio and triglycerides. Inflammation with CRP and zinc-to-copper. Dehydration with red blood cells, hemoglobin, and hematocrit. Fungal overgrowth with Doctor's Data test. SIBO possibly from the breath test,



although I would tend to think it is not SIBO in her case. It depends a little bit on transit time and the other factors we talked about. Then on DUTCH, she has some cortisol dysregulation, probably low cortisol given the free cortisone readings, cortisol-to-cortisone imbalance, and then a tapioca/cassava/yucca intolerance on Cyrex Array 4.

We would want to get urine MMA for her. We didn't have organic acids to see more about the B12 level. We would want to do follow-up testing with True Health Diagnostics* for lipid and metabolic markers and then a functional methylation pathway panel.

<* Note: True Health Diagnostics is no longer in business. See this post for the latest updates.>

For treatment, Paleo reset diet for weight loss, gut health, and nutrient density. Do an antimicrobial protocol, which I will show you in a second here. Increase fish intake, since she is not eating very much at all. Given her inflammatory status, also would use some extra-virgin cod liver oil for vitamin D and increase EPA and DHA. Adequate hydration for dehydration. Avoid tapioca, yucca, and cassava and then reintroduce in 60 days. Check for symptoms. Consume organ meats and shellfish to increase B12 levels or supplement with 2,000 mcg of hydroxy B12. Then stress management to help regulate the HPA axis.

Antimicrobial protocol

Nutreceutical	Dosage	
GI Synergy	1 packet BID (with breakfast and dinner)	
Lauricidin	1 scoop TID with each meal	
Interfase Plus	3-4 capsules BID on empty stomach	
Prescript Assist	One BID upon rising and before bed	
MegaSporeBiotic	One capsule with lunch	
A-FNG	Start with 3 drops BID; increase to 20-30 drops BID if possible	

Here is the antimicrobial protocol that I prescribed for her. Given that she didn't have a lot going on other than the fungal overgrowth, we used the core protocol and A-FNG for a little bit of additional focus on fungus. We had her do it for 60 days simply because the fungal overgrowth was



moderate, and in my experience, that can be somewhat more difficult to treat than a mild bacterial dysbiosis, for example.