



HASHIMOTO'S PROTOCOL

A 90-DAY PLAN FOR REVERSING THYROID
SYMPTOMS AND GETTING YOUR LIFE BACK
———— REFERENCE GUIDE ————

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I've put together this reference guide containing each of the assessments, recipes, supplement lists, and other helpful protocol information from the book, so that you can quickly access all of the information, in one place. I hope you find it helpful!

Izabella Wentz

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Thyroid Symptoms

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THYROID SYMPTOM ASSESSMENT

Which of the following thyroid symptoms do you have?

Rate your symptoms on a scale of 1 to 10, where 1 means you do not experience the symptom at all, 10 means it drastically affects your lifestyle, and N/A means it doesn't apply to you. I recommend that you come back to this assessment after completing each protocol to track improvements.

Fatigue/Drowsiness:	1-10:	or N/A <input type="checkbox"/>
Hair Loss:	1-10:	or N/A <input type="checkbox"/>
Cold Intolerance:	1-10:	or N/A <input type="checkbox"/>
Inability to Lose Weight:	1-10:	or N/A <input type="checkbox"/>
Sadness/Depression:	1-10:	or N/A <input type="checkbox"/>
Mental Fog/Forgetfulness:	1-10:	or N/A <input type="checkbox"/>
Joint Pain:	1-10:	or N/A <input type="checkbox"/>
Acne:	1-10:	or N/A <input type="checkbox"/>
Puffy Face:	1-10:	or N/A <input type="checkbox"/>
Acid Reflux:	1-10:	or N/A <input type="checkbox"/>
Stomach Pain:	1-10:	or N/A <input type="checkbox"/>
Morning Fatigue:	1-10:	or N/A <input type="checkbox"/>
Irritability:	1-10:	or N/A <input type="checkbox"/>
Palpitations:	1-10:	or N/A <input type="checkbox"/>
Night Sweats:	1-10:	or N/A <input type="checkbox"/>
Emotional Lability:	1-10:	or N/A <input type="checkbox"/>
Weight Loss:	1-10:	or N/A <input type="checkbox"/>
Nervousness:	1-10:	or N/A <input type="checkbox"/>
Anxiety:	1-10:	or N/A <input type="checkbox"/>
Feeling Hot:	1-10:	or N/A <input type="checkbox"/>
Trouble Sleeping:	1-10:	or N/A <input type="checkbox"/>
Apathy/Feeling Numb:	1-10:	or N/A <input type="checkbox"/>
Vertigo:	1-10:	or N/A <input type="checkbox"/>
Nausea:	1-10:	or N/A <input type="checkbox"/>

What additional symptoms do you experience?

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Liver Support

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LIVER ASSESSMENT

Mark which symptoms apply to you currently.

- Acne
- Anger, irritability, or aggressiveness
- Anxiety, fear, or nervousness
- Apathy, lethargy
- Arthritis
- Asthma, bronchitis
- Bags or dark circles under eyes
- Bad breath
- Belching or passing gas
- Binge eating or drinking
- Bloating
- Blurred or tunnel vision
- Brain fog
- Canker sores
- Chronic coughing
- Compulsive eating
- Confusion, poor comprehension
- Constipation
- Craving certain foods
- Depression
- Diarrhea
- Difficulty breathing
- Difficulty making decisions
- Digestive problems
- Dizziness
- Drainage from ear
- Earaches, ear infections
- Eczema
- Emotional dysregulation
- Excess mucus formation
- Excessive sweating
- Excessive weight
- Faintness
- Fatigue, sluggishness
- Feeling of weakness or tiredness
- Food sensitivities
- Flushing or hot flashes
- Frequent illness
- Frequent or urgent urination
- Gagging, frequent need to clear throat
- Genital itch or discharge
- Hair loss
- Hay fever
- Headaches
- Heartburn
- Hives, rashes, or dry skin
- Hormonal imbalances
- Hyperactivity
- Insomnia
- Intestinal or stomach pain
- Irregular or skipped heartbeat
- Itchy ears
- Learning disabilities
- Mood swings
- Multiple chemical sensitivity

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LIVER ASSESSMENT (CONTINUED)

Mark which symptoms apply to you currently.

- | | |
|--|---|
| <input type="checkbox"/> Nausea or vomiting | <input type="checkbox"/> Sinus problems |
| <input type="checkbox"/> Near or farsightedness | <input type="checkbox"/> Slurred speech |
| <input type="checkbox"/> One or more autoimmune conditions | <input type="checkbox"/> Sneezing attacks |
| <input type="checkbox"/> Pain or aches in joints | <input type="checkbox"/> Sore throat, hoarseness, loss of voice |
| <input type="checkbox"/> Pain or aches in muscles | <input type="checkbox"/> Stiffness or limitation of movement |
| <input type="checkbox"/> Poor concentration | <input type="checkbox"/> Stuffy nose |
| <input type="checkbox"/> Poor memory | <input type="checkbox"/> Stuttering or stammering |
| <input type="checkbox"/> Poor physical coordination | <input type="checkbox"/> Swollen, reddened, or sticky eyelids |
| <input type="checkbox"/> Rapid or pounding heartbeat | <input type="checkbox"/> Swollen or discolored tongue, gums, lips |
| <input type="checkbox"/> Restlessness | <input type="checkbox"/> Underweight |
| <input type="checkbox"/> Ringing in ears, hearing loss | <input type="checkbox"/> Unexplained weakness |
| <input type="checkbox"/> Sensitivity to meds and supplements | <input type="checkbox"/> Water retention |
| <input type="checkbox"/> Shortness of breath | <input type="checkbox"/> Watery or itchy eyes |

Total number of symptoms:

Less than 3 Optimal

3 - 12 Mild Toxicity

13 - 24 Moderate Toxicity

More than 25 Severe Toxicity

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COMMON FOOD REACTIONS

BODY SYSTEM	SYMPTOMS
Lungs	Postnasal drip, congestion, cough, asthma
Gut	Constipation, diarrhea, cramping, bloating, nausea, gas, acid reflux, burning, burping
Heart	Increased pulse
Skin	Acne, eczema, itchiness
Muscles	Joint aches, pain, swelling, tingling, numbness
Brain	Headache, dizziness, brain fog, anxiety, depression, fatigue, insomnia

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FOOD REACTIONS IN HASHIMOTO'S PATIENTS

The survey respondents were asked whether a food was reactive for them and where the reaction was seen in their bodies.

FOOD	PERCENTAGE THAT REPORTED SENSITIVITY	MOST COMMON SYMPTOM DOMAIN	SECOND MOST COMMON SYMPTOM DOMAIN
Gluten	76%	Gut (57%)	Brain (41%)
Sugar	64%	Brain (35%)	Gut (25%)
Dairy	57%	Gut (44%)	Lungs (21%)
Grains	44%	Gut (30%)	Brain (17%)
Caffeine	42%	Heart (27%)	Brain (18%)
Soy	41%	Gut (16%)	Brain (9%)
Corn	33%	Gut (22%)	Brain (8%)
Nightshades	19%	Gut (9%)	Muscles (7%)
Eggs	18%	Gut (15%)	Brain (4%)
Nuts	15%	Gut (12%)	Skin (4%)
Red Meat	12%	Gut (11%)	Muscles (2%)
Cruciferous Vegetables	11%	Gut (12%)	Brain (1%)
Fruit	9%	Gut (8%)	Skin (3%)
Seeds	7%	Gut (7%)	Brain (1%)

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DAIRY REPLACEMENTS

DAIRY TYPE	REPLACEMENT OPTIONS
Milk	Coconut milk, almond milk, cashew milk
Butter	Coconut oil, ghee
Yogurt	Coconut yogurt, almond yogurt
Whey protein	Pea protein, hydrolyzed beef protein, egg white protein*
Ice cream	Coconut ice cream, almond ice cream, pureed frozen bananas
Cheese	Cashew and other nut cheeses; dairy-free, soy-free cheeses like the brand Daiya

**Likely to cause an adverse reaction with long-term use.*

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LIVER SUPPORT RECIPES

ROOT CAUSE GREEN SMOOTHIE

Ingredients:

- 1 cup mixed baby greens
- 2 large carrots
- 1 ripe avocado
- 1 stalk of celery
- 1 cucumber
- 1 bunch basil leaves
- 1 cup coconut milk
- 1 scoop pea protein powder
- Sea salt to taste

Directions:

Combine all ingredients in a blender and blend until smooth

GREEN JUICE

Ingredients:

- 6-7 baby carrots
- 1 Granny Smith apple
- 3-4 stalks of celery
- 1 small cucumber
- 3 cups finely chopped kale
- 1 peeled lime
- Sea salt to taste

Directions:

Juice the veggies and fruit in a juicer and top it off with some sea salt. If you have blood sugar concerns, blend with 1-2 tablespoons of coconut oil or 1 avocado. This is my all-time favorite juice.

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TURMERIC TEA

Ingredients:

- 1 teaspoon turmeric
- 1 teaspoon ginger
- Pinch of pepper
- Pinch of cinnamon
- Juice of 1 lemon
- Sweetener to taste (stevia and maple syrup are my top recommendations)
- 1 cup hot filtered water

Directions:

Put all the spices and lemon juice in the mug of your choice and top off with boiling water and mix!

TANDOORI CHICKEN

Ingredients:

- 1 teaspoon curry
- 1 teaspoon turmeric
- 1 teaspoon paprika (skip if you are nightshade sensitive)
- 1 teaspoon garlic powder
- 1/2 teaspoon pepper
- 1 teaspoon sea salt
- 2 cups coconut milk
- 1 whole chicken, cut up, or 8 chicken drumsticks

Directions:

Add all the ingredients to slow cooker and cook on medium for 8 hours.

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THE SGC

Ingredients:

- Smoked wild-caught salmon
- Guacamole (1 avocado, garlic powder, tomatoes*, and onions)
- Fermented cabbage

Directions:

Add all the ingredients to a plate and enjoy!

*Avoid if you have nightshade sensitivity.

BREAKFAST HASH

Ingredients:

- 1 pound grass-fed ground beef
- 4 cups chopped mixture of zucchini, carrots, broccoli, and cauliflower
- 1/4 chopped onion

Directions:

Stir-fry 10-15 minutes until veggies and meat are cooked through.

Tip: Make a big batch and freeze in breakfast-sized portions.

ROOT CAUSE SMOOTHIE

Ingredients:

- 12 ounces coconut milk
- 1 scoop pea/hemp/beef protein as tolerated
- 2 cups chopped mixture of lettuce, celery, and carrots
- Lemon/lime juice to taste

Directions:

Juice all ingredients in a blender and enjoy.

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BREAKFAST SPAGHETTI

Ingredients:

- 1 medium squash (spaghetti, acorn, or butternut)
- 1 cup cooked, diced chicken, beef, or pork
- 1 tablespoon coconut oil
- 1 teaspoon basil
- Sea salt to taste
- Water

Directions:

Before bed, put the squash in a slow cooker. Add the diced meat, coconut oil, basil, and sea salt. Cover with water. Cook on low overnight. Wake up to great smells in the morning!

BREAKFAST DELIGHT

Ingredients:

- Coconut oil
- 1 cup diced butternut squash
- 1 pound chicken tenders
- 1 cup baby kale
- 1 teaspoon basil
- Sea salt to taste
- Olive oil to taste

Directions:

Stir-fry in coconut oil for 10 minutes. Top with olive oil and serve.

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HOT LEMON WATER

Ingredients:

- Juice of 1 lemon
- 1 cup hot filtered water
- Stevia to taste

Directions:

Add lemon juice to hot water and sweeten to taste. Drink first thing in the morning instead of caffeine.

DETOX JUICE

Ingredients:

- 1 bunch cilantro
- 1 cup coconut water
- Stevia to taste
- Juice of 1/2 lemon
- 10 drops chlorophyll
- Hot filtered water

Directions:

Blend all ingredients and enjoy.

PEPPERMINT TEA

Ingredients:

- 1 bunch peppermint
- 1 cup hot filtered water
- Stevia to taste

Directions:

Add peppermint to the hot water and let steep for five minutes. Remove mint, sweeten to taste, and enjoy!

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SPA WATER

Ingredients:

- 1 pitcher filtered water
- 1/4 cup each of mint, halved strawberries, and cut cucumbers

Directions:

Add mint, strawberries, and cucumbers to the water and sip throughout the day.

MACA LATTE

Ingredients:

- 1 tablespoon maca powder
- 1 tablespoon coconut milk
- 1 teaspoon cinnamon
- Stevia to taste
- 1 cup hot filtered water

Directions:

Add all ingredients to a blender and blend until smooth. Enjoy!

FERMENTED MARGARITA

Ingredients:

- 1 cup fermented coconut water
- Juice of 1 lime
- 1/2 teaspoon sea salt
- Stevia to taste

Directions:

Mix ingredients in a glass. Add ice and blend if desired. Trust me, it's yummy!

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VIRGIN MOJITO

Ingredients:

- Juice of 1 lime
- 1 bunch mint leaves
- 1/2 teaspoon ground ginger
- 1 cup filtered water or coconut water
- Stevia to taste

Directions:

Mash mint leaves using a mortar and pestle to release the flavor. Mix with the rest of the ingredients in a glass and enjoy. Alternately, place all ingredients in a blender and blend.

SAMPLE DAILY MEAL PLAN

TIME	FOOD/DRINK
7:00 AM	Hot Lemon Water
8:00 AM	Root Cause Green Smoothie
10:00 AM	Green Juice
12:00 PM	Salad
3:00 PM	Peppermint Tea or Maca Latte
6:00 PM	Dinner with organic meats and veggies
8:00 PM	Detox Juice, Fermented Margarita, or Virgin Mojito

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LIVER SUPPORT SUPPLEMENTS

SUPPLEMENT	HOW TO USE	RECOMMENDED BRANDS
MTHFR support supplement with activated B6 (as pyridoxal-5'-phosphate), activated folate, B12 as methylcobalamin and trimethylglycine	Take daily during detox, and continue indefinitely if you have the MTHFR gene mutation.	Rootcology Methylation Support, Pure Encapsulations Homocysteine Factors, Designs for Health Homocysteine Supreme
Supplement containing amino acids to support phase 2 liver detox (glutamine, glycine, taurine, alpha-ketoglutarate, glutathione, methionine, ornithine)	Take 6 capsules during 2-week liver protocol and continue during gut cleanse.	Rootcology Amino Support, Designs for Health Amino-D-Tox
Supplement containing gallbladder, liver, and bile flow supporting substances (L-methionine, taurine, inositol, choline, beta-carotene, ox bile, milk thistle, dandelion, artichoke, beet)	Take 3 capsules daily during 2-week liver protocol. May continue beyond if experiencing fat malabsorption/ gallbladder issues.	Rootcology Liver Gallbladder Support, Pure Encapsulations Digestion GB, LV-GB by Designs for Health
NAC	Take 1,800 mg daily with food, starting with liver support, and continue for 3–6 months.	Rootcology, Pure Encapsulations, Designs for Health
Curcumin with bioperine	Take 1–3 capsules daily during 2-week liver support.	Pure Encapsulations
Liver support powder containing amino acids, nutrients, and herbs	Add 1 scoop to smoothies for 2 weeks.	Rootcology Liver Reset Powder, Designs for Health PaleoCleanse
Magnesium (citrate or glycinate)	Take 1–4 capsules at bedtime starting with liver support and may continue for 3–6 months or as needed.	Pure Encapsulations

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Adrenals and Blood Sugar

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ADRENAL ASSESSMENT

Mark which symptoms apply to you currently.

- I have low blood pressure
- I feel dizzy when I stand up
- I have hypoglycemia (low blood sugar)
- I crave salt
- I crave sweets
- I have dark circles under my eyes
- I have sleep problems (either falling asleep or staying asleep)
- I have nonrestorative sleep (don't feel reenergized)
- I have mental foggy or trouble concentrating
- I have headaches
- I have frequent infections (catch cold easily)
- I don't tolerate exercise well and feel completely exhausted after
- I feel stressed most of the time
- I feel tired but wired
- I retain water
- I have panic attacks or am easily startled
- I have heart palpitations
- I need to start the day with caffeine
- I have poor tolerance to alcohol, caffeine, and other drugs
- I feel weak and shaky
- I have sweaty palms and feet when nervous
- I feel fatigued
- I felt worse shortly after taking thyroid medications
- Fasting makes me feel worse
- My muscles are weak

Total number of symptoms:

Less than 3 Low Risk

3 - 6 Intermediate Risk

More than 7 High Risk

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FOOD AND HUNGER GUIDE

TYPE OF FOOD	TIME UNTIL YOU ARE HUNGRY AGAIN
Carbohydrate	45 minutes - 1 hour
Protein	2 - 3 hours
Fat	4 hours

My favorite sources of protein and fat that stabilize blood sugar include the following foods:

- Avocados
- Chia seeds
- Chicken
- Coconut, avocado, or olive oil
- Coconut milk
- Duck fat
- Eggs (if not sensitive)
- Egg white protein (if not sensitive)
- Grass-fed beef
- Hydrolyzed beef protein
- Lamb
- Nuts (except peanuts)
- Olives
- Pea protein
- Pork
- Salmon
- Sardines
- Seeds like pumpkin
- Tallow
- Turkey
- White fish

I recommend that you have generous amounts of proteins and fats with each meal. Adding in fiber may be an additional strategy to keep your blood sugar stable.

If you are not sensitive to any of the ingredients listed, starting your day with the Root Cause Smoothie will help you keep blood sugar stable throughout the day.

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ROOT CAUSE BUILD SMOOTHIE

Ingredients:

- 1/2 cup baby carrots
- 1 avocado
- 1 cup coconut milk
- 1 cup greens
- 2 egg yolks (if tolerated)
- 1 scoop hydrolyzed beef protein

Directions:

Add ingredients to a blender and blend thoroughly. You can add water to thin out the consistency, which will make it easier to eat and feel less filling.

HOW MUCH PROTEIN SHOULD YOU GET PER DAY?

- **Low activity:** Most people with low to moderate amounts of activity should aim for 1.0 g to 1.2 g of protein per kilogram of body weight per day.
- **High activity:** Those who are exercising and otherwise active should eat at least 1.2 g per kilogram of body weight per day (that's about 0.5 g per pound).
- **Illness:** Most older adults who have acute or chronic diseases can eat 1.2 to 1.5 g per kilogram of body weight per day. Older people with severe kidney disease (estimated GFR <30 mL/min/1.73 m²), but who are not on dialysis, are an exception to this rule; these individuals may need to limit protein intake.
- **Bodybuilding:** Those lifting heavy weights can eat up to 2 g per kilogram of body weight per day.

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CHOOSING THE MOST OPTIMAL FORM OF B VITAMIN

B VITAMIN NUMBER	NAME	OPTIMAL FORM
B1	Thiamine	Thiamine HCl or benfotiamine
B2	Riboflavin	Riboflavin-5'-phosphate
B3	Niacin	Niacinamide
B5	Pantothenic acid	D-calcium pantothenate
B6	Pyridoxine	Pyridoxal-5-phosphate
B7	Biotin	D-biotin
B8	Inositol	Myo-inositol
B9	Folate	Methylfolate, Metafolin, or NatureFolate
B12	Cobalamin	Methylcobalamin

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ADRENAL SUPPLEMENT OVERVIEW

PREFERRED PRODUCTS	DESCRIPTION
Adrenal Support by Rootcology, Daily Stress Formula by Pure Encapsulations, or Adrenotone by Designs for Health	A mixture of adaptogenic herbs, vitamins, minerals, and amino acids to support the adrenals. Blends containing ashwagandha should be avoided in people with nightshade reactions.*
B-Complex Plus by Pure Encapsulations, Selenium by Pure Encapsulation, or BenfoMax 600 mg by Pure Encapsulations	B vitamins, especially pantothenic acid (B5) and thiamine (B1), support proper adrenal function, and methylcobalamin (B12) supports energy function. Some individuals may also benefit from sublingual B12 formulations. Thiamine and benfotiamine support energy levels in people with Hashimoto's. Doses of 600 mg per day are recommended.
Vitamin C by NOW Foods	Vitamin C is an essential vitamin for proper adrenal function. Doses of 500–3,000 mg per day are helpful for adrenal function. Reduce dose if diarrhea occurs.
Selenium	Selenium is a nutrient that has been found to reduce thyroid antibodies and anxiety. Doses of 200–400 mcg of selenium methionine are recommended.
Magnesium (citrate) by Pure Encapsulations	Magnesium supports healthy DHEA levels and promotes a restful sleep. The citrate salt helps promote bowel movements. Reduce dose or switch to magnesium glycinate if diarrhea occurs.

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Gut Health

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GUT HEALTH ASSESSMENT

Mark which symptoms apply to you currently.

- I have an autoimmune condition
- I have gas
- I have food sensitivities
- I have irritable bowel syndrome
- I have fewer than one bowel movement per day
- I have hard-to-pass stools
- I have diarrhea
- I have constipation
- I have stomach cramps
- I tend to have undigested food in my stools
- I need to take laxatives to have bowel movements
- I have taken antacids (Pepto-Bismol, Maalox, Tums, and so on) more than once in the past year
- I have taken acid-blocking medications like Pepcid, famotidine, Prevacid, omeprazole, Zantac, Nexium, or Prilosec in the last five years
- I have taken antibiotics for more than two weeks
- I have taken more than three courses of antibiotics in the last ten years before my symptoms started
- I have taken a steroid medication like prednisone for more than two weeks in the last ten years before my symptoms started
- I have taken the birth control pill
- I take over-the-counter pain relievers like ibuprofen, Aleve, Advil, or naproxen on a regular basis
- I have skin rashes, acne, or hives
- I have seasonal or environmental allergies
- I have a swollen, patchy, or coated tongue
- I feel bloated after eating or experience gas or belching
- I have anal itching
- I feel nausea after eating
- I have foul-smelling stools
- I have cravings for sweets, alcohol, or carbs
- I drink coffee or alcohol on a daily basis
- I frequently eat out
- I like to eat sushi and meat that is undercooked

Total number of symptoms:

Less than 2 Low Risk

1 - 2 Intermediate Risk

More than 3 High Risk

Source: Adapted from Mark Hyman, *The UltraMind Solution: Fix Your Broken Brain by Healing Your Body First* (New York: Scribner, 2008) and *The UltraMind Solution Companion Guide* (Lenox, MA: UltraWellness, 2009).

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PROBIOTIC BLENDS

PROBIOTIC TYPE	BEST PRODUCTS
Lactic acid based	VSL#3, Ther-Biotic Complete by Klaire Labs, Probiotic 50B by Pure Encapsulations
Yeast based	<i>Saccharomyces boulardii</i> by Rootcology
Spore based	MegaSporeBiotic

EASY BONE BROTH

Ingredients:

- 5 chicken legs
- 2 cups mixed chopped carrots, onions, and celery
- 1 tablespoon apple cider vinegar
- Sea salt to taste
- Purified water

Directions:

Add all ingredients to a slow cooker and cook overnight to wake up to delicious bone broth. According to Dr. Kellyann Petrucci, author of *Bone Broth Diet*, bone broth should cook for 8 to 24 hours to extract the most nutrients. Cooking bone broth in a slow cooker is the best way to do so and is so much easier than using a stovetop!

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GUT BALANCE SUPPLEMENTS

- **Systemic enzymes (see recommended brands):**
10 capsules or tablets, 3 times per day on an empty stomach
- **Probiotics:** Work your way up to target dose
- **L-glutamine powder:** 5 g, 3 times per day
- **Zinc:** 30 mg per day
- **NAC:** 1,800 mg per day
- **Omega-3s:** 1–4 g per day
- **Vitamin D:** 5,000 IU per day

The Gut Balance Protocol will help you overcome dysbiosis and some gut infections, but if you find that you still have gut symptoms after completing this protocol, I recommend that you do further investigation through the Advanced Protocols. You may find that you have gut infections and other triggers that require further intervention. Continue this Fundamental Gut Balance Protocol during your infection-eradication phase and for three to six months after to help further seal and heal the gut.

GUT HEALTH SUPPLEMENT OVERVIEW

SUPPLEMENT TYPE	ACTION	RECOMMENDED USE	NOTES
Betaine with pepsin	Helps digest protein-containing meals	Pure Encapsulations	Take with protein-containing meals. Do not use with ulcers, <i>H. pylori</i> , NSAIDs, steroids, or proton pump inhibitors, or if burning occurs after taking.
Systemic and proteolytic enzymes	Break down circulating immune complexes, antibodies to the thyroid gland, and foods	Wobenzym PS, Pure Encapsulations Systemic Enzyme Complex	May impact clotting tests. Stop for 2 weeks prior to any surgery.

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GUT HEALTH SUPPLEMENT OVERVIEW (continued)

SUPPLEMENT TYPE	ACTION	RECOMMENDED USE	NOTES
Probiotic	Works to balance beneficial flora	Rootcology, MegaSporeBiotic, Klaire Labs, VSL#3, Pure Encapsulations	Do not take <i>lactobacillus</i> -containing probiotics with SIBO.
L-glutamine powder	5 g, 3 times per day helps to repair leaky gut	Pure Encapsulations	Do not take if feeling too agitated.
Zinc picolinate	30 mg daily helps to support the gut barrier	Pure Encapsulations	Take with food. May deplete iron, copper.
N-acetylcysteine (NAC)	Supports liver function, breaks down pathogenic biofilms in the gut, supports glutathione levels	Pure Encapsulations, Rootcology	Take with food. May cause discomfort on empty stomach.
Omega-3 fatty acids	1–4 g reduces inflammation and heals the gut	Pure Encapsulations EPA/DHA	If burping occurs after taking, freeze before taking.
Vitamin D	Supports immune function and gut integrity	Pure Encapsulations	Start with 5,000 IU per day, then adjust based on lab values. May build up in the body, so test within 3–6 months of starting supplement.

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The Full Fundamental Protocols

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Here's an overview of the complete Fundamental Protocols and the steps of each individual protocol contained within.

FOCUS AND LENGTH OVERVIEW

Liver (2 weeks)	<p>Overview: Remove potentially triggering foods, add supportive foods, reduce toxic exposure, support detox pathways</p> <p>Diet: Root Cause Intro diet: remove gluten, dairy, soy, sugar</p> <p>Supplements: Liver Reset powder, NAC, methylation support, magnesium</p> <p>Benefits: Eliminate overall toxic exposure, improve body's detoxification abilities, reduce body's toxic burden</p>
Adrenal (4 weeks)	<p>Overview: Rest, de-stress, reduce inflammation, balance the blood sugar, replenish nutrients and add adaptogens</p> <p>Diet: Root Cause Paleo Diet: remove grains</p> <p>Supplements: Adrenal adaptogens, B vitamins, magnesium, selenium, thiamine, vitamin C</p> <p>Benefits: Shift body into a regenerative process, increase strength and resilience, rebalance inflammatory hormones</p>
Gut (6 weeks)	<p>Overview: Remove reactive foods, supplement with enzymes, balance the gut flora, nourish the gut</p> <p>Diet: Root Cause Autoimmune Diet: remove gut-reactive foods including eggs, nightshades, seeds, nuts</p> <p>Supplements: Betaine, L-glutamine, omega-3, probiotics, systemic enzymes, vitamin D, zinc</p> <p>Benefits: Renew bacterial and microbial balance, eliminate digestive distress, reduce autoimmune expression</p>

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Triggers and Their Role

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DEFINING TRIGGERS AND THEIR ROLE IN THE ADVANCED PROTOCOLS

I like to think of triggers in terms of antigenic load. An antigen is a substance that causes the immune system to make antibodies against it and can be a chemical, bacterium, virus, or pollen particle, as well as a toxin or cell. When there are too many antigens in the body, the immune system can become overwhelmed and lose its ability to distinguish self from non-self. When the immune system attacks the self—or the body instead of the antigens—this is autoimmune disease.

In my work, I've found that there is often a combination of antigens that act as a trigger for Hashimoto's, and that a trigger can be anything that has the potential to stress the body or mind, upset the gut barrier, or clog up our detox pathways. Well-established environmental triggers for developing Hashimoto's in those who are genetically predisposed include excessive iodine intake, selenium deficiency, hormonal imbalances, toxins, and therapy with certain types of medications. Scientific studies have also correlated Hashimoto's onset with the hormonal shifts that occur with pregnancy, puberty, and perimenopause.

From an adaptive physiology standpoint, a trigger is anything that can make our body think that it's best to conserve, rather than expend, energy.

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To create your personal health timeline, it's important to consider all potential Hashimoto's triggers to which you may have been exposed. When you look at this list of potential triggers, do you see any you've personally encountered or experienced?

- Accutane (acne medication)
- Amiodarone (heart medication)
- Bacterial infection
- Blood transfusion
- Cytomegalovirus
- Dental x-rays
- Emotional stress
- Epstein-Barr virus
- Excessive iodine intake
- Fluoride exposure
- Heavy metals
- H. pylori* bacteria
- Hepatitis C virus
- Hepatitis C treatment
- Herpes virus
- HPV vaccine
- Interferon- and cytokine-based medications
- Lithium (medication used for bipolar disorder)
- Lyme disease or tick bites
- Mold
- Parasites
- Periodontal pathogens
- Pregnancy
- Radiation
- Selenium deficiency
- Stress
- Toxin exposure
- Trauma to the neck
- Tyrosine kinase inhibitors (medications used for cancer)
- Viral infection
- Whiplash
- Yersinia* bacteria

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Advanced Assessments

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Please go through the following assessments and mark the statements that apply to you. If you have one or more symptoms on an assessment, this is an indication that you need to do further testing and digging within the related Advanced Protocol.

THYROID HORMONES ASSESSMENT

Mark which symptoms apply to you.

- I have tangled, thinning hair or hair loss
- My eyebrows are thinning
- My face looks puffy
- I experience memory loss or brain fog
- I experience sadness or apathy
- I am fatigued
- I hardly ever sweat
- I'm colder than the average person
- I have gained weight and have trouble losing weight
- I experience joint pain
- I tend to have heavy menstrual periods
- I feel irritable, agitated, or restless and have mood swings
- I have palpitations or a rapid heart rate
- I can't stand the heat
- My periods have been scanty or light
- I am experiencing unintentional weight loss
- I struggle with insomnia
- I am sweating excessively

Thyroid hormone assessment score:

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NUTRITION ASSESSMENT

Mark which symptoms apply to you.

- I was a vegetarian for more than six months
- I was a vegan for more than three months
- I eat processed or packaged foods
- I have never had a nutritional consult
- My wounds heal slowly
- I have been anemic before
- I eat a low-fat diet
- I have multiple strange symptoms
- I don't tan well and don't spend at least two hours in the sun each day
- I have dry skin, dandruff, or dry hair
- I eat fewer than six servings of vegetables per day
- I have multiple food sensitivities
- My diet is very restricted
- I have a history of an eating disorder like anorexia, bulimia, binge eating, or orthorexia
- I have never had food sensitivity testing
- I have multiple autoimmune conditions

Nutrition assessment score:

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TRAUMATIC STRESS ASSESSMENT

Mark which symptoms apply to you.

- I experienced a premature loss of a loved one
- I had an abusive or traumatic childhood
- I have felt socially isolated during my life
- I have been in an abusive relationship
- I am not in a happy or fulfilling relationship
- I worry a lot or feel the world is an unsafe place
- I overcommit and have a hard time saying no
- I feel guilty or ashamed more than once a year
- I don't have friends I can trust
- I feel frustrated often, am quick to get angry, or am slow to forgive or get over things
- I often play the role of the martyr or feel like others are taking advantage of me
- I am always tired. Everyday tasks are an effort, and stress feels overwhelming
- I tend to be a night owl, or I have a hard time waking up in the morning
- I sleep too much or not enough, or I don't feel rested after sleeping
- I have a hard time expressing myself and speaking up in groups, or I tend to be shy
- I don't have time to play, or I don't have a creative outlet or stress-reducing hobbies
- I have low blood pressure or feel light-headed when I get up too quickly
- I have PMS, irregular periods, infertility, or decreased sex drive
- I have intense cravings for salty foods (aka "I just ate a whole bag of chips" syndrome)
- It takes me a long time to recover from illness, my wounds heal slowly, and exercise and stress can leave me exhausted for days

Traumatic stress assessment score:

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INFECTIONS ASSESSMENT

Mark which symptoms apply to you.

- I had a mystery illness and have never felt the same after
- I have had Epstein-Barr virus (mono), herpes virus, or cytomegalovirus
- I have nasal congestion or sinusitis
- I have swollen lymph glands or a sore throat
- I have a chronic, low-grade fever
- I have irritable bowel syndrome
- I have acid reflux
- I have food sensitivities to more than one food
- I have foul-smelling stools, diarrhea, or flatulence
- I am deficient in ferritin, iron, or B12
- I have experienced food poisoning
- I crave alcohol or sweets
- My gums bleed when I brush my teeth
- I have dental pain, receding gums, or bad breath
- I have constipation, diarrhea, bloating, indigestion, malabsorption, or stomach cramps more than once per month
- I have been camping, have been bitten by a tick, or live in a Lyme-endemic area
- I have pain anywhere in my body
- I have hives, rashes, allergies, or asthma

Infections assessment score:

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TOXINS ASSESSMENT

Mark which symptoms apply to you.

- I have skin rashes, breakouts, and other types of skin reactions
- I have multiple chemical or odor sensitivities
- I have or have had dental amalgams (silver fillings)
- I have consumed tuna more than twenty times per year
- I have fatigue that is not caused by obvious reasons like exercise or staying up late
- I do not tolerate alcohol
- I've had significant exposure to chemicals like pesticides, cosmetics, plastics, or industrial chemicals
- I've lived in a place with mold
- I have taken oral contraceptives for more than one year
- I have a history of blood clots in my body or menstrual cycle
- I have worked on a farm, in a dental office, in a factory, or as a painter
- I've lived in a big metropolitan city for over one year
- I hardly sweat
- I have the MTHFR gene mutation
- I have a family history of birth defects
- I have sinusitis
- I was a vegetarian for more than three m
- I have tingling in my extremities
- I have a rapid pulse
- I have a metallic taste in my mouth

Toxins assessment score:

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Thyroid Medications

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ROOT CAUSE RESEARCH CORNER: SURVEY SAYS...

A survey of over two thousand Root Cause readers revealed the following results regarding which medications made them feel better or worse.

Please use these results to guide your treatment plan, but also remember that you are an individual and not a statistic. Just because most people felt better on a particular medication doesn't mean that this will be your ideal medication.

ROOT CAUSE MEDICATION SURVEY

MEDICATION	% REPORTED FEELING BETTER	% REPORTED FEELING WORSE	% REPORTED NO DIFFERENCE
Armour Thyroid	59	18.5	22.5
Nature-Throid	56.5	11	32.5
Compounded T4/T3	55	11.5	33.5
Cytomel	52	12	36
Synthroid	43	31	26
Tirosint	26	8	66
Levoxyl	25	25	50

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SUMMARY OF THYROID MEDICATIONS

BRAND NAME (GENERIC NAME)	DESCRIPTION
Armour Thyroid, Nature-Throid, WP Thyroid, NP Thyroid (thyroid USP)	Desiccated pork thyroid gland T4/T3 combination. Mimics the biological ratio of 80% T4 to 20% T3 with a T4:T3 ratio of 4:1. May also contain TPO and thyroglobulin, which can perpetuate the autoimmune attack in some. WP Thyroid is hypoallergenic.
Proloid (thyroglobulin)	Partially purified pork thyroglobulin. T4:T3 ratio of 2.5:1.
Synthroid, Levothyroid, Levoxyl, Thyro-Tabs, Unithroid (levothyroxine)	Synthetic T4. Variable absorption among products. Should not switch back and forth between brand and generics.
Cytomel (liothyronine)	Synthetic T3.
Liotrix (thyrolar)	Synthetic T4:T3 in 4:1 ratio. Product on long-term back order at time of writing.
Compounded thyroid medications	Tailored dosage forms with a unique ratio of T4:T3 and free of allergenic fillers prepared by specialized compounding pharmacists. May be formulated as immediate-release or slow-release medications. Slow-release products may be more difficult to absorb.
Tirosint (levothyroxine)	New liquid gelcap formulation of T4; contains only glycerin, gelatin, and water. May be better absorbed and hypoallergenic. Less likely to interfere with coffee or proton pump inhibitors.

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ROOT CAUSE RESEARCH CORNER: SURVEY RESULTS FROM 2,232 PEOPLE WITH HASHIMOTO'S

QUESTION: WHAT IS THE OPTIMAL TSH RANGE FOR YOU TO FEEL YOUR BEST?

TSH RANGE	% REPORTED FEELING BETTER	% REPORTED FEELING WORSE	% REPORTED NO DIFFERENCE
Under 1 μ U/mL	70	12	18
Between 1 and 2 μ U/mL	57	20	23
Above 2 μ U/mL	10	67	23

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UNDERTREATMENT OR OVERTREATMENT ASSESSMENT

Mark which symptoms apply to you.

Symptoms of UNDERTREATMENT

- Apathy
- Brain fog
- Cold intolerance
- Eyebrow thinning/loss
- Fatigue
- Hair loss
- Heavy periods
- Joint pain
- Puffy face
- Sadness
- Tangled hair
- Weight gain

Symptoms of OVERTREATMENT

- Agitation
- Excess sweating
- Heat intolerance
- Insomnia
- Irritability
- Mood swings
- Palpitations
- Rapid heart rate
- Restlessness
- Scant periods
- Weight loss

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Modified Root Cause Build Smoothie

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MODIFIED ROOT CAUSE BUILD SMOOTHIE

Ingredients:

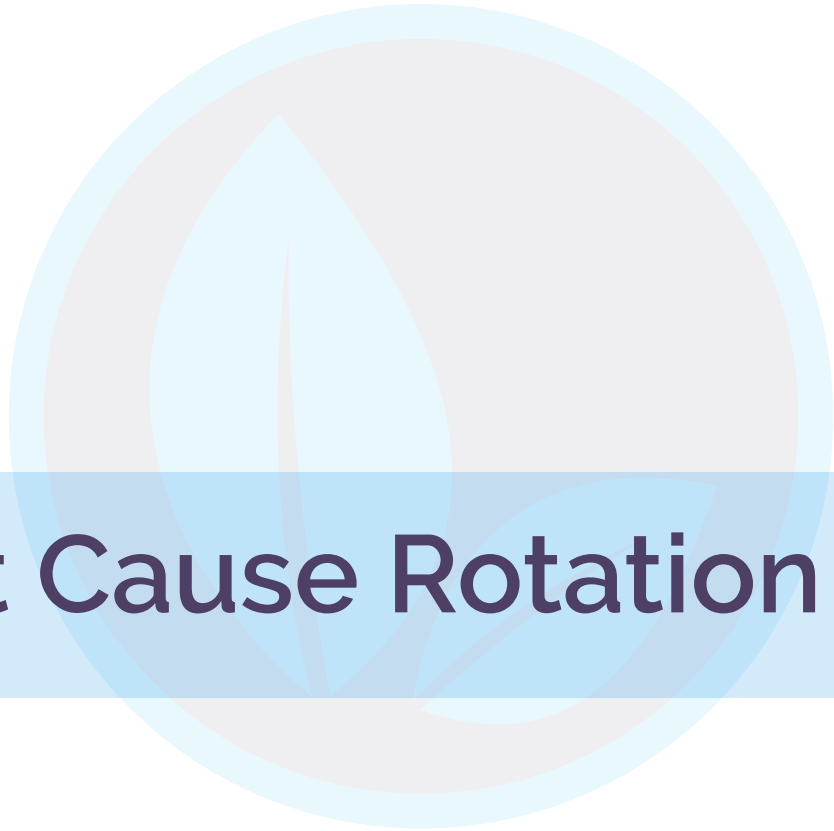
- 1 avocado
- 1 cup coconut milk
- 1 banana
- 2 egg yolks (if tolerated)
- 1 scoop hydrolyzed beef protein

Directions:

Add ingredients to a blender and blend thoroughly. You can add water to thin out the consistency, which will make it easier to eat and feel less filling. This is a great way to add 700+ calories to your daily intake. You can also add cooked sweet potatoes if you need more carbs or calories to meet your goal.

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Root Cause Rotation Diet

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ROOT CAUSE ROTATION DIET

Foods are grouped by "families," and the same families are eaten only every fourth day to minimize inflammation due to reactions.

FOOD CATEGORY	DAY 1	DAY 2	DAY 3	DAY 4
Vegetables	Sweet potato, yam, sorrel, mushroom, okra, asparagus, green beans	Arugula, broccoli, Brussels sprouts, cabbage, cauliflower, collard greens, daikon, kale, radish, watercress, hearts of palm	Pumpkin, squash, bitter melon, cucumber, zucchini, carrots, celery, fennel, parsley, parsnip, olives	Plantain, avocado, artichokes, dandelion, endive, lettuce, beets, chard, lamb's-quarters, spinach
Meat, fish, fowl	Beef, bison, buffalo, goat, lamb, duck, goose, deer, elk, rabbit, squab	Anchovy, catfish, cod, flounder, grouper, halibut, salmon, sardine, snapper, swordfish, tuna	Chicken, turkey, crab, lobster, shrimp	Clams, scallops, perch, trout, sole, whitefish, pork
Fruit	Rhubarb, blueberry, cranberry, kiwi, persimmon, apricot, cherry, nectarine, peach, plum	Grapefruit, lemon, lime, mandarin, orange, tangerine, pineapple, grapes	Mango, cantaloupe, honeydew melon, elderberry, papaya, pomegranate	Banana, fig, mulberry, apple, pear, blackberry, raspberry, strawberry
Nuts/seeds		Coconut		

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ROOT CAUSE ROTATION DIET (CONTINUED)

FOOD CATEGORY	DAY 1	DAY 2	DAY 3	DAY 4
Thickeners	Yam puree, sweet potato puree		Squash puree, arrowroot	Applesauce
Drinks	Hibiscus tea	Lemon water, coconut water	Ginger tea, mint	Chamomile, chicory, dandelion root coffee
Spices	Garlic, leek, onion, shallot, vanilla, black pepper	Tamarind, carob, horseradish, mustard, wasabi, allspice, cloves	Cardamom, ginger, turmeric, anise, caraway, chervil, cilantro, coriander, cumin, dill, basil, marjoram, mint, oregano, rosemary, thyme	Capers, saffron, bay leaf, cinnamon, tarragon
Sweeteners	Honey, prunes	Dates	Maple syrup	Black currant, stevia
Fats and oils	Duck fat, goose fat	Coconut oil	Chicken fat, olive oil	Avocado oil, safflower oil, lard
Sour	Cranberry juice	Lemon juice, sauerkraut	Pickles, pomegranate	Apple cider vinegar, beet kvass

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ROOT CAUSE ROTATION DIET MEAL IDEAS

MEAL CATEGORY	DAY 1	DAY 2	DAY 3	DAY 4
Breakfast	Beef hash with sweet potatoes, onions, leeks, and garlic, or leftovers from previous day	Stir-fried fish with kale, or leftovers from previous day	Turkey sausage with parsnip puree	Pork cutlets with avocado and artichokes or leftovers from previous day
Lunch	Portabella mushroom bison burgers with sweet potato fries	Halibut with Brussels sprouts puree	Turkey meatballs with spaghetti squash	Capers, saffron, and scallops over a bed of spinach
Dinner	Baked duck with plum sauce and steamed asparagus	Salmon with broccoli and mashed cauliflower	Chicken stew with squash and carrots	Pulled pork, plantains, and avocado
Snacks	Beef jerky and blueberries	Sardines, dried coconut flakes	Olives and pickles, papaya	Avocado with beets, plum sauce

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FOOD REINTRODUCTION CHART

As you begin to reintroduce foods back into your life, here are some symptoms that could suggest you are reacting to a food.

Manifestations of Food Reactions in Body Systems

SYSTEM	SYMPTOM
Respiratory	Postnasal drip, congestion, cough, asthma symptoms
Gastrointestinal	Constipation, diarrhea, cramping, bloating, nausea, gas, acid reflux, burning, burping
Cardiovascular	Increased pulse, palpitations
Skin	Acne, eczema, itchiness
Musculoskeletal	Joint aches, pain, swelling, tingling, numbness

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Nutrient Deficiencies

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IRON DEFICIENCY OVERVIEW

Common Deficiency Causes	<p>Acid-suppressing medications Heavy menses Blood loss Gut infections Food sensitivities Heavy metals</p>
Optimal Levels	90-110 ng/mL
Supplement	<p>Ferrochel from Designs for Health or OptiFerin-C from Pure Encapsulations</p>
How to Take It	<p>Please talk to your doctor or pharmacist for dosing guidelines. Take with vitamin C and betaine with pepsin.</p>
Caution	<p>Can be toxic and carries risk of overdose. Keep out of reach from children and pets.</p>

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B12 DEFICIENCY OVERVIEW

Common Deficiency Causes	Vegan diet Vegetarian diet H. pylori infection Low stomach acid SIBO Acid blockers Gut disorders Weight-loss surgery
Optimal Levels	700–900 pg/mL
Supplement	B12 as methylcobalamin (Pure Encapsulations brand liquid or Designs for Health chewable)
How to Take It	5,000 mcg daily for 10 days, then 5,000 mcg weekly for 4 weeks, then 5,000 mcg monthly for maintenance.
Caution	May cause irritability.

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Additional Adrenal Resources

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ADDITIONAL ADRENAL RESOURCES

For further reading on adrenals, you can check out my other book, *Hashimoto's Thyroiditis: Lifestyle Interventions for Finding and Treating the Root Cause*, or any of these excellent resources:

- *The Adrenal Reset Diet* by Alan Christianson
- *Adrenal Fatigue* by James L. Wilson
- *The Adrenal Thyroid Revolution* by Aviva Romm

Stage 2: Cortisol-dominant stage: Now DHEA is either low or borderline, and overall cortisol levels are normal, but an adrenal saliva test may reveal fluctuations in the cortisol rhythm, such as excessively high cortisol in the morning but lowered later in the day. As this continues, the adrenals eventually become exhausted and start to burn out, progressing to the third stage.

Protocol:

- Pregnenolone: 8–12 mg, 2–3 times per day for 3–12 months
- DHEA: 2–3 mg, 2–3 times per day for 3–12 months
- Phosphatidyl Serine (soy free) by ProThera: Take 2–4 hours prior to high cortisol reading for 1–2 weeks

Stage 3: Low-cortisol stage: In this stage, DHEA is either low or borderline low, and the total cortisol is low.

Protocol:

- Pregnenolone: 10–15 mg, 2–3 times per day for 3 months to 2 years
- DHEA: 1–3 mg, 2–3 times per day for 3 months to 2 years
- Hydrocortisone: 5–15 mg per day in divided doses, if total cortisol is under 15, for 1 to 6 months
- Licorice drops: 5–10 drops taken 4 hours prior to low cortisol readings for 3–6 months (do not use with high blood pressure)

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Cautions: While most of the supplements I recommend in this book are generally well tolerated and highly unlikely to cause adverse reactions, the hormonal protocol supplements are an exception to this. All of the above-listed supplements have the propensity to impact hormone levels, and while they are available without a prescription, I do recommend that they be used only under the supervision of a trained practitioner.

Pregnenolone: Not to be taken with history of hormone-dependent cancers or tumors or with hyperthyroidism. Do not start with full dose at once.

DHEA: Not to be taken with history of hormone-dependent cancers, tumors, estrogen dominance, high DHEA, high testosterone, hyperthyroid, or polycystic ovary syndrome (PCOS). Do not start with full dose at once. Excess dose may cause acne; in that case, reduce dose or discontinue.

Hydrocortisone: Numerous possible precautions and side effects, including pituitary and adrenal suppression when used in excess. May suppress the immune system and encourage the spread of low-grade infections.

Licorice drops: Do not take with high blood pressure. Will increase blood pressure.

Phosphatidyl Serine: Do not take with stage 3 adrenal fatigue, reduced kidney function, or caffeine.





Infections

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THE MANY INFECTIONS LINKED TO HASHIMOTO'S

Many infections have been implicated in triggering and exacerbating Hashimoto's. Here's a partial list of infections that I have seen in clients or that have been reported in research:

- *Bartonella henselae*, "cat scratch fever"
- *Blastocystis hominis*
- *Borrelia burgdorferi*, the bacteria that causes Lyme
- Coxsackie virus
- *Cryptosporidium*
- Cytomegalovirus
- *Dientamoeba fragilis*
- *Endolimax nana*
- *Entamoeba histolytica*
- Enterovirus
- Erythrovirus B19
- *Giardia lamblia*
- *H. pylori*
- Hepatitis C
- Herpes viruses
- Human herpesvirus 6
- Human parvovirus
- Human T-lymphotropic virus type 1 (HTLV-1)
- *Iodamoeba bütschlii*
- Mumps
- *Mycobacterium avium subspecies paratuberculosis*
- Rubella
- Sinus infections
- Small intestinal bacterial overgrowth (SIBO)
- *Toxoplasma gondii*
- *Yersinia enterocolitica*

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If you have Hashimoto's and you've had difficulty going into remission, there is a significant chance that you have an infection. Up to 80 percent of my clients who don't go into remission with dietary changes have tested for one or more infections using functional medicine testing. As we used to say in pharmacology class, "every bug needs a different drug," meaning that each infection has a unique treatment protocol. I'd like to share the top tests I recommend to clients to figure out if they have one or more of the above infections so that they can follow the appropriate protocols. Please note that no tests are perfect and that false negatives may also be present. That said, there are no false positives.

While numerous infections have been implicated in triggering Hashimoto's, the most common infections I see in my clients include SIBO, *H. pylori*, yeast overgrowth, *Blastocystis hominis*, and reactivated Epstein-Barr virus, so we will focus on these infections here.

TESTING FOR INFECTIONS

- ***H. pylori*:** I recommend using the stool antigen test for *H. pylori*, which is a more sensitive test compared to an *H. pylori* breath test and even an endoscopy. Unlike the blood test, which may be positive due to past infections, a positive stool antigen test will reveal if a current infection is present. In 2015, 20 percent of my clients tested positive to *H. pylori*. Labs that utilize the stool antigen test include the GI-MAP test from Diagnostic Solutions Laboratory, the Doctor's Data Comprehensive Stool Analysis, the GI Pathogen Plus Profile from DRG Laboratory, and the GI Effects Comprehensive Profile—Stool from Genova Diagnostics.
- ***Blastocystis hominis*:** This protozoal parasite is the most common parasite I've found in people with Hashimoto's. In 2015, 35 percent of my clients tested positive for it. Functional medicine stool tests that test for this include the GI-MAP test from Diagnostic Solutions Laboratory, the Doctor's Data Comprehensive Stool Analysis, the GI Pathogen Plus Profile from DRG Laboratory, and the GI Effects Comprehensive Profile—Stool from Genova Diagnostics.
- **Yeast overgrowth:** Yeast overgrowth can be detected on stool tests like the GI-MAP test from Diagnostic Solutions Laboratory, the Doctor's Data Comprehensive Stool Analysis, the GI Pathogen Plus Profile from DRG Laboratory, and the GI Effects Comprehensive Profile—Stool from Genova Diagnostics as well as organic acids tests offered by various labs.
- **SIBO:** A 2007 study revealed that SIBO can be present in up to 54 percent of people with hypothyroidism. Unfortunately, most stool tests do not test for the presence of SIBO. To properly test for SIBO, we need to do a breath test to determine the presence of gas-producing bacteria. Some gastroenterology centers may have breath

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testing machines; otherwise, you can order a SIBO breath test kit that uses Lactulose to stimulate the bacteria to release their giveaway gases. SIBO breath tests are offered by the following labs: Commonwealth Laboratories and Genova Diagnostics.

- **Epstein-Barr virus reactivation:** Most of us have had a prior infection of the Epstein-Barr virus. In some, the virus may not be properly suppressed and may cause or exacerbate autoimmune disease. Blood tests are used to figure out if a person has a reactivated infection. Here's what to test (I recommend testing for all three, as only one may come out positive), and what the results may mean:
 - EBV-VCA IgG/IgM by ELISA (viral capsid antigen): IgG positive means you've had or have the infection; IgM positive means reactivated infection.
 - EBV-EBNA-1 IgG by ELISA (nuclear antigen): A positive test result is usually associated with past infection.
 - EBV-EA-D IgG by ELISA (early antigen): Positive EA IgG may mean active infection or reactivated infection.

***H. PYLORI* PROTOCOL**

Here are some potential treatment options to discuss with your practitioner. While the treatment will depend on you and your practitioner, some patients prefer the longer, more gentle approach for asymptomatic cases and the more intensive and shorter approach in cases with symptoms.

Pharmacologic Treatment

The following medication treatments are considered the standard of care options for treating *H. pylori* infections.

- **Triple therapy:**
 - Omeprazole, amoxicillin, and clarithromycin (OAC) for 10 days
 - Bismuth subsalicylate, metronidazole, and tetracycline (BMT) for 14 days
 - Lansoprazole, amoxicillin, and clarithromycin (LAC), which has been approved for either 10 days or 14 days of treatment
- **Quadruple therapy:**
 - PPI, bismuth, tetracycline, and metronidazole for 7–14 days

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Herbal and Alternative Treatment

- Mastic gum: 500 mg, 2–3 times per day (breakfast, lunch, dinner) for 60 days
- DGL Plus: 1 tablet, 3 times per day (breakfast, lunch, dinner) for 60 days
- *S. boulardii*: 5 billion–15 billion CFUs, 2–4 times per day for 60 days (Please note, the use of multiple antibiotics has been implicated with dysbiosis and exacerbating gut issues. Taking *S. boulardii* along with antibiotic treatments may minimize the risk of dysbiosis.)

Supportive Treatment

- Cabbage juice: 4 oz. daily for 28 days

***BLASTOCYSTIS HOMINIS* PROTOCOL**

Pharmacologic Treatment

- Alinia: 1,000 mg twice a day for 3 days, repeated in 2 weeks, then again 2 weeks later
- Alternative options: Alinia 500 mg twice daily for 30 days, or Alinia 1,000 mg twice per day for 2 weeks (but Alinia will kill off lots of good flora and you may have extreme die-off symptoms including exhaustion, body pains, and mood changes)
- Nystatin 500,000 units: 2 capsules, 3 times per day for 30–90 days with Alinia or after treatment to address the fungal overgrowth

Herbal and Alternative Treatment

- CandiBactin-BR: 2 capsules, 3 times per day for 60 days
- Oil of oregano 150 mg: 2 capsules, 3 times per day for 60 days
- *S. boulardii*: 5 billion–15 billion CFUs, 2–4 times per day (up to 8 per day) for 60 days
- Wormwood-containing antiparasitic: 600 mg, 2 times per day for 7 days, repeat in 2 weeks (Do not use if you have a history of hepatitis or elevated liver enzymes.)

Supportive Treatment

- Root Cause Paleo or Root Cause Autoimmune Diet for 90 days
- Lipase-containing digestive enzyme (Digestive Enzymes Ultra from Pure Encapsulations): As needed with meals for 60–90 days

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YEAST OVERGROWTH PROTOCOL

Pharmacologic Treatment

- Nystatin 500,000 units: 2 capsules, 3 times per day for 30–90 days (Diflucan is an alternative option)

Herbal and Alternative Treatment

- Oil of oregano 150 mg: 2 capsules, 3 times per day for 60 days
- *S. boulardii*: 5 billion–15 billion CFUs, 2–4 times per day (up to 8 per day) for 60 days
- Activated charcoal: 2–4 capsules daily at bedtime for 60 days (may deplete magnesium)

Supportive Treatment

- Anti-yeast diet, such as the Body Ecology Diet, for 60–90 days

SIBO PROTOCOL

Pharmacologic Treatment

- For hydrogen-producing bacteria: Rifaximin 1,200 mg daily for 14 days
- For methane-producing bacteria: Rifaximin 1,600 mg per day for 10 days, combined with neomycin (1,000 mg daily for 10 days) or metronidazole (750 mg per day for 10 days)

Herbal and Alternative Treatment

- CandiBactin-BR: 2 capsules, 3 times per day for 60 days
- Oil of oregano 150 mg: 2 capsules, 3 times per day for 60 days
- For methane-producing bacteria, add Allicillin (garlic extract): 2 capsules, 3 times per day for 60 days

Supportive Treatment

- Peppermint tea: 2–3 cups per day
- Physicians' Elemental Diet by Integrative Therapeutics used as meal replacement for 2–3 weeks (may exacerbate adrenal issues)
- Specific carbohydrate diet for 60–90 days
- GAPS diet for 60–90 days
- Low-FODMAP diet for 60–90 days

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ROOT CAUSE BROAD-SPECTRUM GUT-CLEANSING PROTOCOL

- Oil of oregano 150 mg: 2 capsules, 3 times per day for 60 days
- CandiBactin-BR: 2 capsules, 3 times per day for 60 days
- *S. boulardii*: 5 billion–15 billion CFUs, 2–4 times per day (up to 8 per day) for 60 days
- Wormwood-containing antiparasitic: 600 mg, 2 times per day for 7 days, repeat in 2 weeks (Do not use if you have a history of hepatitis or elevated liver enzymes.)

EPSTEIN-BARR VIRUS PROTOCOL

Pharmacologic Treatment

- Valganciclovir: 1,800 mg daily for 3 weeks, then 900 mg daily for 6 months or longer

Herbal and Alternative Treatment

Lomatium is a broad-spectrum antiviral herb from Barlow Herbal Specialties, with potential therapeutic benefit in Epstein-Barr virus, HPV, herpes viruses, and CMV as well as for prevention of viral infections like the flu and the common cold.

Lomatium can cause a one-time rash, similar to a viral exanthem rash, that occurs as the body clears itself of a virus. To prevent the development of this rash, it is recommended to start with MunityBoost first, which is a combination of liver support herbs with a low dose of Lomatium.

If you do not use Lomatium, consider these other herbal treatments:

- Cordyceps 750 mg: 2 capsules, 3 times per day for 90 days
- Olive leaf extract: 1 capsule, 2 times per day for 60 days

Supportive Treatment

- NAC: 1,800 mg per day
- ProBoost Thymic Protein A: Dr. Jacob Teitelbaum, a physician who specializes in chronic fatigue syndrome, recommends 3 packets per day for 90 days to help the body fight viruses
- Adaptogens (ashwagandha, schisandra, astragalus)
- Vitamin D: 5,000 IU per day tailored to lab testing
- Vitamin C: 500–3,000 mg per day
- Tanning in the sun or at tanning salons
- Lysine
- Intravenous vitamin C

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MUNITYBOOST AND LOMATIUM CHART

WEEK	MUNITYBOOST	LOMATIUM DOSE
1	15 drops twice per day	NONE
2	25 drops twice per day	NONE
3	25 drops twice per day	25 drops twice per day
4+	NONE	25 drops twice per day

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Toxins

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HOUSEHOLD TOXINS

CHEMICAL	FOUND IN	STRATEGY
Bisphenol A (BPA)	Plastics, receipts	Remove plastics from your cooking and food storage utensils.
Formaldehyde	Furniture made from particle board, car seats	Air out car before getting in. Avoid buying new particle board furniture.
Benzenes	In blackened food	Avoid charred, grilled, and burned foods.
Tetrachloroethylene	In dry cleaning	Opt for only "green" dry cleaning that avoids the use of these chemicals, or skip dry cleaning altogether. Air out dry-cleaned clothes before wearing.
Tetrabromobisphenol A	Flame retardants, especially in mattresses	Purchase a bromine-free mattress made of naturally flame-resistant substances like wool.
Parabens	Add 1 scoop to smoothies for 2 weeks.	Rootcology Liver Reset Powder, Designs for Health PaleoCleanse
Bisphenol A (BPA)	Personal care products such as makeup, shaving cream, lotions, and shampoos	Purchase paraben-free, organic personal care products.

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STRATEGIES FOR OVERCOMING MOLD

You can address the presence of mold by implementing strategies in your home, following pharmacologic treatment (as prescribed by a medical professional), and taking helpful supplements. Let's look at the specifics of each of these strategies:

Minimize Mold in Your Home

- Move to a new home (easier said than done). While it's not always possible, it may become necessary.
- Work with a professional to remediate mold in your home.
- Get an air purifier for your home.
- Have the air ducts in your home cleaned.

Pharmacologic Treatment

- Antifungal medication like fluconazole or itraconazole: for 30–90 days for killing mold in body
- Cholestyramine powder: for 30–90 days for binding mold to carry out of the body

Herbal and Alternative Treatment

- Oil of oregano: 2 capsules, 3 times per day for 30–60 days
- *S. boulardii*: 5 billion–15 billion CFUs, 2–4 times per day (up to 8 per day) for 60 days
- Argentyn nasal spray: 1 spray in each nostril, 1–2 times per day (for mold in sinuses)
- Activated charcoal: 2 capsules at bedtime (may cause magnesium depletion)
- CholestePure by Pure Encapsulations (soy derived): 1–2 capsules, 3 times per day (with meals) for 30–90 days

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METAL TOXICITY SOURCES

TYPE OF METAL	FOOD SOURCES	ENVIRONMENTAL SOURCES	PRACTICES TO AID CLEARANCE
Nickel	Chocolate, nuts, canned foods, black tea, shellfish, processed meats with fillings or casings, beans, lentils, soy, peas, wheat, oatmeal, buckwheat, seeds, bean sprouts, Brussels sprouts, asparagus, broccoli, cauliflower, spinach, canned vegetables	Stainless steel cookware and utensils, vitamins with nickel, tap water	Take vitamin C with each meal, eat a high-iron diet, take a zinc supplement, and replace stainless steel cookware. Sweat!
Lead	Rice from China, wild game shot with lead bullets, wine	Indoor dust, cosmetics (such as lipsticks), gasoline, crystals, toys from China, lead pipes	Take vitamin D, exercise, and eat greens.
Arsenic	Rice, chicken, shellfish	Well water, lipsticks, insecticides, copper-treated wood, Ayurvedic supplements	Take turmeric, NAC, and chlorophyll. Take methylation support supplements like those used for the MTHFR gene mutation.
Mercury	Certain fish, especially king mackerel, marlin, orange roughy, shark, swordfish, tilefish, ahi tuna, and bigeye tuna	Coal-burning plants, amalgams, vaccines	Alkalize the urine with a magnesium or potassium supplement to boost clearance. Take a selenium supplement.

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METAL TOXICITY SOURCES (CONTINUED)

TYPE OF METAL	FOOD SOURCES	ENVIRONMENTAL SOURCES	PRACTICES TO AID CLEARANCE
Cadmium	Shellfish, organ meat	Cigarette smoke, pesticide spray, air	Alkalize the urine with a magnesium or potassium supplement to boost clearance. Sweat!

GENTLE METAL DETOXIFICATION PROTOCOL

Two important parts of detoxification involve mobilizing the toxins and adsorbing the toxins. Mobilizing toxins can be done with prescription chelating agents or cilantro in concentrated form. As I often find that people with Hashimoto's report feeling worse rather than better after prescription chelation agents, I prefer to use cilantro to start.

The second important part of detoxification is adsorbing the toxins so they stick to the substance and are ushered to removal rather than roaming free within the body. Various substances are used for adsorbing toxins, such as chlorella, activated charcoal, and fiber as apple pectin or psyllium. I personally have preferred activated charcoal and psyllium husk fiber, as chlorella can be problematic for some with Hashimoto's due to high iodine content and immune-modulating properties associated with seaweeds.

The following is a gentle protocol for heavy metals. The duration of treatment will depend on the toxic load.

- A psyllium mixture can help adsorb toxins from the gut and prevent their reabsorption by stimulating bile excretion. Psyllium has the added benefit of lowering cholesterol and blood sugar, preventing gallstone formation, and increasing colonic butyrate, which boosts good bacteria. Charcoal and psyllium should be used together, as psyllium can prevent charcoal-induced constipation. Add 1 teaspoon of psyllium husks to 8 oz. of water and mix. Drink mixture, and then follow with one more 8 oz. cup of water. Be sure to separate from food and other supplements by 2 hours. Utilize this mixture 1–3 times per day.
- Activated charcoal can help clear toxins from the intestinal tract and appendix and prevents hepatic recycling of toxins. Start with 1 capsule of activated charcoal daily apart from meals (midday around 3:00 to 4:00 p.m. usually works best for most people), and then work your way up to 3 capsules. Be sure to supplement with magnesium citrate, as activated charcoal can deplete magnesium and lead to constipation and other symptoms of magnesium deficiency.

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- Cilantro mobilizes toxins. Take 2 drops twice per day before meals (or 30 minutes after charcoal or psyllium mixture) for 1 week on, then 3 weeks off. May repeat for 1 week each month to move toxins out gradually and gently.
- Apple pectin or rice bran fiber may also be used as sources of fiber that can help with clearing out toxins from the body. Take 7 to 10 g per day.
- Alpha-lipoic acid is a sulfur-containing supplement that can help reduce heavy metals and increase glutathione levels. Take 100 to 300 mg per day. (Avoid with CBS gene mutation.)

A note about fiber: Ideally, you will have cleared out any gut infections, especially SIBO, as you're working on detoxification. Detoxification protocols that contain fiber can aggravate SIBO, dysbiosis, and other types of gut imbalances.

If you do have toxins in your body, it may also help to continue taking vitamin C, a multivitamin, betaine with pepsin (heavy metals deplete stomach acid), probiotics, magnesium, zinc, selenium, and NAC as you work on clearing them out of your body. Furthermore, you may also want to repeat the Fundamental Liver Support Protocol while detoxifying.

It may also be helpful to ensure that your urine is alkaline, which can increase the elimination of toxins. A urine pH above 7 is recommended. If you find that your urine pH continues to be lower (or more acidic), you can try supplementing with magnesium to enhance alkalization. You can find pH sticks online to measure the pH of your urine.

SULFUR SENSITIVITY

I have found that individuals with the CBS gene mutation are more likely to have sulfur sensitivity. Sulfur requires specific protocols to encourage elimination. In some cases, sulfur toxicity or sensitivity may be present in people with mercury toxicity, and some of my clients have reported this reaction after treatment with DMSA. Symptoms of sulfur toxicity include skin rashes and reactions to sulfur-rich foods such as eggs and garlic.

Sulfur Toxicity Protocol

- Follow a 2-week vegan diet cleanse (if tolerated).
- Avoid sulfur-rich foods such as eggs, garlic, onions, and cruciferous vegetables for 4–8 weeks.
- Supplement with butyrate, molybdenum, B12, L-carnitine, and thiamine to help to clear out excess sulfur for 4–8 weeks.
- Avoid sulfur-containing supplements, including NAC, selenium, glutathione, and alpha-lipoic acid for 4–8 weeks.

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COPPER TOXICITY

Copper toxicity is a relatively common root cause for Hashimoto's. Symptoms include fatigue, irritability, anxiety, emotional lability, hair turning reddish, acne, poor concentration, skin rashes, and poor wound healing.

You might have been exposed to excess copper through water coming through old copper pipes, food, multivitamins, birth control pills, copper IUDs, and some dental procedures. Copper toxicity can also be a result of poor adrenal function or excess estrogen. These are ways to test for copper toxicity:

- Hair test: Elevated copper may show up directly or be hidden, where the copper looks normal but results show high calcium and low zinc-to-copper ratio, or high calcium and high mercury.
- Blood test: Copper toxicity may show up as low alkaline phosphatase.
- Genova Diagnostics Comprehensive Urine Element Profile provoked with DMPS/DMSA: This test will show elevations in copper.

Supporting the adrenals, balancing female hormones, taking supplements, and following a low-copper diet can be helpful in eliminating copper toxicity.

COPPER TOXICITY PROTOCOL (LISTED IN ORDER OF IMPORTANCE)

Please note, the duration of treatment will depend on the overall copper load.

- Copper-free multivitamin (Nutrient 950 from Pure Encapsulations): 6 per day
- Zinc picolinate: 30–60 mg per day to displace copper
- Molybdenum: 100–500 mcg per day to clear out copper from bloodstream
- Manganese: 5–30 mg per day to displace copper
- Vitamin C: 500–3,000 mg per day to chelate copper
- B6: 50–200 mg per day to aid with symptoms of copper toxicity
- Alpha-lipoic acid: 50–150 mg per day to chelate copper
- Evening primrose oil: 500 mg twice per day to improve zinc absorption

As copper toxicity often co-occurs with adrenal dysfunction, continuing fish oils, NAC, magnesium, B complex, and adrenal support may also be wise if you have copper toxicity. Additionally, adding higher doses of evening primrose oil (2,000 to 3,000 mg per day) can help with symptoms including hair loss.

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YES FOODS HIGH IN ZINC, LOW IN COPPER	NO FOODS HIGH IN COPPER
<ul style="list-style-type: none"> Eggs Poultry Wild game Red meat Fish Vegetables Ginger Cinnamon Filtered water Occasional (once a week): Pumpkin seeds Legumes Gluten-free grains 	<ul style="list-style-type: none"> Organ meats like liver Shellfish Shrimp Lobster Crab Oysters* Plant proteins (beans, peas, soy) Nuts Seeds Mushrooms Chocolate* Avocados Brewer's yeast Curry Black pepper Black tea Beer

**Very high levels of copper*

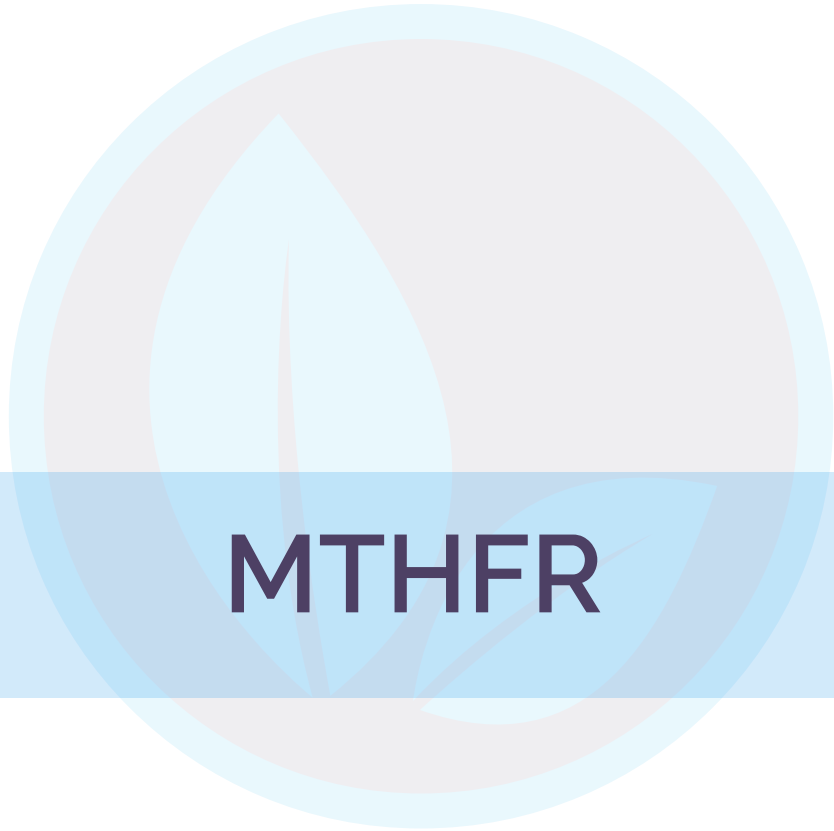
COPPER DUMPS

It's important to note that copper protocols may result in mild worsening of symptoms during the first ten days of treatment. Then improvements will be noticeable in weeks three to four, and full effects may be seen in three to twelve months. Within the first couple of days, you might experience copper dumps, which can occur as you begin to clear copper in large quantities. These can include symptoms of nausea, racing thoughts, anxiety, irritability, emotional volatility, and skin flare-ups.

To read more about overcoming copper toxicity, I highly recommend checking out the excellent book *Why Am I Always So Tired?* by Ann Louise Gittleman.

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MTHFR

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MTHFR MUTATION PROTOCOL

Rootcology Methylation Support, Pure Encapsulations Homocysteine Factors, and Designs for Health Homocysteine Supreme are MTHFR support supplements with activated B6 (as riboflavin-5'-phosphate), activated folate, and B12 as methylcobalamin and trimethylglycine.

HOMOCYSTEINE TEST RESULTS	NUMBER OF CAPSULES PER DAY
<6 $\mu\text{mol/L}$	1
6–9 $\mu\text{mol/L}$	2
9–15 $\mu\text{mol/L}$	3
9–15 $\mu\text{mol/L}$	5

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