Addressing the Root Causes of Hashimoto’s

Izabella Wentz, PharmD, FASCP
Objectives

1. Recognize the top cause of hypothyroidism
2. Recognize the top root causes of Hashimoto’s
3. Recognize the good, bad and ugly drugs in Hashimoto’s
4. Recognize the most helpful nutritional interventions for people with Hashimoto’s
5. Recognize top functional medicine and complementary treatments for Hashimoto’s
My Story/Disclosures

• Received Doctor of Pharmacy degree from Midwestern University College of Pharmacy in 2006
• Diagnosed with Hashimoto’s thyroiditis in 2009
• Author of NYT bestselling patient guide “Hashimoto’s Thyroiditis: Lifestyle Interventions for Finding and Treating the Root Cause”
• Author of website: thyroidpharmacist.com
• Co-founder of the Hashimoto’s Institute Practitioner Training Program
• Trustee for Thyroid Change
• Hashimoto’s Awareness Board Member
• Paid Advisor to Pure Encapsulations
• Paid speaker for Designs for Health
What We Are Taught About Thyroid Conditions

HYPO thyroidism
- Dry, Coarse Hair
- Loss of Eyebrow Hair
- Puffy Face
- Enlarged Thyroid (Goiter)
- Slow Heartbeat
- Constipation
- Weight Gain
- Brittle Nails
- Arthritis
- Cold Intolerance
- Depression
- Dry Skin
- Fatigue
- Forgetfulness
- Infertility
- Muscle Aches
- Heavy Menstrual Periods

HYPER thyroidism
- Hair Loss
- Bulging Eyes
- Enlarged Thyroid (Goiter)
- Sweating
- Rapid Heartbeat
- Weight Loss
- Frequent Bowel Movements
- Warm, Moist Palms
- Tremor of Fingers
- Soft Nails
- Difficulty Sleeping
- Heat Intolerance
- Infertility
- Irritability
- Muscle Weakness
- Nervousness
- Scant Menstrual Periods
Hashimoto’s: 
Primary Reason For Hypothyroidism
What It Feels Like To Have Hashimoto’s...
Stages of Hashimoto’s

1: Genetic predisposition

2: Immune cell infiltration into thyroid gland

3: Subclinical hypothyroidism

4: Overt hypothyroidism

5: Progression to other autoimmune disorders
Proper Diagnosis

“In recent years the National Academy of Clinical Biochemists indicated that 95% of individuals without thyroid disease have TSH concentrations below 2.5 μIU/L, and a new normal reference range was defined by the American College of Clinical Endocrinologists to be between 0.3- 3.0 μIU/ml”

Source: 2012 Clinical Practice Guidelines for Hypothyroidism in Adults: Available at http://aace.metapress.com/content/b67v7mk73g3233n2/fulltext.pdf

1. TSH
2. TPO Antibodies
3. Thyroglobulin Antibodies
4. Free T4
5. Free T3
6. (Thyroid Ultrasound)
Traditional Approach
Old School Natural Approach

I was given iodine for a short spurt and my TSH went up to 98 and my antibodies up to 9800 after about 3 months. I think it can be deceiving. I would only do it with a doctor who understands that delicate balance with Selenium. I regret that time in my journey now. It was with a chiropractor who did the simple iodine test on the hand and determined the dosage by muscle testing. I would not advise that for others.

September 22 at 9:22am · Like · ☑️ 1
Root Cause Approach
“Dogmas Are Dangerous. You Should Never Be a Martyr To a Sole Healing Philosophy. I Have Found That A Patient-Centered Integrative Approach Is The Kindest And Most Effective Approach To Healing.”-Dr. Izabella Wentz
The Perfect Storm Of Autoimmunity

- Alessio Fasano et. al.

1. Genetic predisposition
2. Exposure to antigen (trigger)
3. Intestinal permeability
Root Causes

Nutrient Depletions

- Toxins
- Intestinal Permeability
- Chronic Infections
- Poor Stress Response
- Food Sensitivities
Toxins

- Excess Iodine
- Petrochemical plants
- Fluoride
- Radiation
- Medications
Triggering/Exacerbating Medications

<table>
<thead>
<tr>
<th>Substance</th>
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<tbody>
<tr>
<td>Iodine</td>
</tr>
<tr>
<td>Fluoride</td>
</tr>
<tr>
<td>Amiodorone</td>
</tr>
<tr>
<td>Lithium</td>
</tr>
<tr>
<td>Interferon</td>
</tr>
<tr>
<td>Some monoclonal antibodies</td>
</tr>
<tr>
<td>Botox</td>
</tr>
<tr>
<td>Accutane</td>
</tr>
</tbody>
</table>
Autoimmunity and Infection MOA

• Molecular mimicry-
  – immune system begins to attack our own thyroid gland because we are infected with a pathogenic organism (like a bacteria, parasite or virus), that looks similar to components of the thyroid gland.
  – outside of the thyroid

• Bystander effect
  – the thyroid is infected with a pathogen (usually virus), the immune system starts to attack the virus’s home
  – inside the thyroid

• Intestinal permeability
  – Gut infections
Infections: Most Research

- H. Pylori
  - Reduction in antibodies
  - Remission
- Epstein Barr
  - Onset
  - Reactivation
- Yersinia entercolitica
  - 19 cross reactive proteins
  - Remission
- Lyme disease (Borellia and others)
  - 16 cross reactive proteins
- SIBO
  - 50% of hypothyroid subj (n=100)
Root Cause Approach Part 1: Strengthening the Body

① Lab Testing
② Turning Your Body’s Regeneration Setting On
③ Medications
④ Liver Support
⑤ Optimizing Diet & Macronutrients
⑥ Optimizing Micronutrients
Root Cause Approach Part 2: Identifying and addressing the triggers

① Antibodies and Nodules
② Adrenal Triggers
③ Dental Triggers
④ Chronic Infections
⑤ Gut Healing
⑥ Deep toxins, next steps, staying in remission…
Lessons Learned From Being a Human Guinea Pig, Spending All of My Free Time on PubMed and Supporting Two Hundred Thousand People with Hashimoto’s
May 2015: Surveyed 2232 of my readers with Hashimoto’s

My Analysis
Food Survey Says...
*(Original research publication pending)*

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Felt better</th>
<th>Felt Worse</th>
<th>Reduced Antibodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Sensitivity</td>
<td>62%</td>
<td>4.20%</td>
<td>43%</td>
</tr>
<tr>
<td>AIP</td>
<td>75%</td>
<td>4%</td>
<td>38%</td>
</tr>
<tr>
<td>Soy free</td>
<td>63%</td>
<td>1.20%</td>
<td>34%</td>
</tr>
<tr>
<td>Gluten free</td>
<td>88%</td>
<td>0.73%</td>
<td>33%</td>
</tr>
<tr>
<td>Grain free</td>
<td>81%</td>
<td>0.74%</td>
<td>28%</td>
</tr>
<tr>
<td>Paleo</td>
<td>81%</td>
<td>3.20%</td>
<td>27%</td>
</tr>
<tr>
<td>Low FODMAPs</td>
<td>39%</td>
<td>0%</td>
<td>27%</td>
</tr>
</tbody>
</table>
Food Survey, cont.
*(Original research publication pending)*

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Felt better</th>
<th>Felt Worse</th>
<th>Reduced Antibodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegan</td>
<td>30%</td>
<td>28.00%</td>
<td>23%</td>
</tr>
<tr>
<td>Low GI</td>
<td>76%</td>
<td>2.30%</td>
<td>22%</td>
</tr>
<tr>
<td>Dairy free</td>
<td>79%</td>
<td>1.50%</td>
<td>20%</td>
</tr>
<tr>
<td>Egg Free</td>
<td>47%</td>
<td>3%</td>
<td>19%</td>
</tr>
<tr>
<td>Nightshade free</td>
<td>48%</td>
<td>2%</td>
<td>14%</td>
</tr>
<tr>
<td>Red Meat Avoidance</td>
<td>40%</td>
<td>14%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Hashimoto’s Patients + GF Diet (n=2232)

• “Felt Better” on Gluten-Free Diet: 88% (n=1793)
• Saw an improvement in digestive symptoms on GF diet: 85.9% (n=1634)
• Confirmed Celiac disease: 3.5% (n=2226)
• “Felt Better” on Synthroid: 43% (n=843)
• “Felt Better” Armour- 58.9 % (n=729)

• Top Benefits
  ① Energy (67%)
  ② Mood (60%)
  ③ Weight (52%)
Highly Reactive Foods (IgG)  
*(preliminary research)*

- 100% - Cottage cheese, brewer’s yeast
- 90% - cola, safflower, whey, baker’s yeast
- 80% - casein, blue cheese, *chicken*, cow milk, goat milk, *rosemary*, yogurt
- 70% - corn, cheddar, Swiss, licorice, *mushroom*, sugar cane
- 60% - *pineapple*, pinto bean, *ginger*, *oregano*, *oyster*, white potato, sesame, walnut
Most Common Nutrient Deficiencies

- Selenium
- Ferritin
- B’s
- Zinc
- Vitamin D

www.thyroidpharmacist.com/labs
“Stress Is At The Root Cause Of Most Chronic Conditions”
Anecdotal Evidence

- Blastocystis hominis
- H Pylori
- Reactivated EBV
- SIBO
- Other Parasites
- Yeast
- Dental Infections
Common Factors of Success

- Positive, can do attitude
- Supportive spouse/partner/network
- Celebrate little successes
- Not afraid to dream big
- Stress relief hobbies
- Willing to invest in themselves
- Don’t stop “living” just because they have Hashimoto’s
- Willing to ask for help from others
- Willing to surrender their need to control the situation
- Willing to rest when they need to rest
Predictors of Poor Outcomes

- Attached to a dogma
- Not willing to invest in themselves
- Guru shoppers
- Perfectionism and unrealistic expectations
- Not good enough
- Caught up in being sick
- Paralysis by analysis
- People who are socially isolated and don’t have a support network
### Medication Management

<table>
<thead>
<tr>
<th>Right Medication</th>
<th>Right Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Are they converting T4 to T3?</td>
<td>• Are they on the correct dose?</td>
</tr>
<tr>
<td>• Free T3</td>
<td>• TSH</td>
</tr>
<tr>
<td>• Free T4</td>
<td>• Free T3</td>
</tr>
<tr>
<td>• Symptoms</td>
<td>• Free T4</td>
</tr>
<tr>
<td>• Is a combo medication required?</td>
<td>• Symptoms</td>
</tr>
<tr>
<td>• Is a hypoallergenic option needed?</td>
<td>• Goldilocks hormone</td>
</tr>
<tr>
<td>“Felt Better” on Synthroid: 43% (n=843)</td>
<td></td>
</tr>
<tr>
<td>“Felt Better” Armour: 58.9 % (n=729)</td>
<td></td>
</tr>
</tbody>
</table>
Ducks In A Row

1. Diagnosis
2. Stress Strategies
3. Medication Management
4. Food Pharmacology/Nutrition
5. Liver Support
6. Advanced adrenals
7. Gut (including oral health)
8. Advanced Detox
9. Triggers
Top Hashimoto’s Food Myths
Low Carb

• Myth: “I went low carb and feel tired, so the low carb diet must be bad for people with thyroid issues”

• Hack: Feeling tired after starting low carb diet likely due to poor digestion of proteins.

• Try starting your day with a green smoothie, increasing your veggie intake and taking protein digestive enzyme “Betaine with Pepsin”

• Some people benefit greatly from ketosis!
Almonds

• *Myth:* “Almonds are healthy, I can eat them every day”

• Unfortunately many people can be sensitive to almonds.

• Almonds are one of the top reactive foods for people with Hashimoto’s. If you don’t react to them now, rotate them.
Raw Dairy

- **Myth:** “Raw dairy is perfectly OK for Hashimoto’”
- Perhaps if you drank it your whole life... If you are already sensitized to the dairy protein casein or whey from drinking conventional milk, you’ll likely react to the proteins in raw cow’s milk as well.
- Goat’s milk is highly cross reactive. You may be able to tolerate camel milk. It’s different enough and may help to heal a dairy sensitivity.
Goiterogens

• *Myth:* “Goiterogens need to be avoided in Hashimoto’s”
• Those poor brassica vegetables! Goitrogen is a really old word meant to describe something that causes a goiter. It’s a very deceiving word, and can mean different things for different substances. In relation to brassicas (cabbage, Brussels sprouts, broccoli, cauliflower) this means they block iodine absorption. This was an issue in the olden days
  – They are perfectly healthy, help us detox and excellent for Hashimoto’s
  – Most cases of Hashimoto’s are not due to iodine deficiency
  – On the other hand, if you are iodine deficient, you may want to steam the veggies or ferment them. This will break down the glucosinolates (the iodine blocking)
Seaweed/Iodine

- *Myth: Everyone with Hashimoto’s should eat lots of seaweed for iodine*

- Hashimoto’s is not necessarily a condition of low iodine intake. It’s more of a condition of poor iodine processing, so excess can actually inflame the system even more so. Avoid super high doses
Iodine Controversy

Figure 5: Rates of Thyroid Peroxidase Antibodies (TPOAb) and Thyroglobulin Antibodies (TgAb) in Tehran, Iran before and after a national salt iodization program.

Figure 4: Impact of Iodine on Thyroid Disorders.
## Iodine

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Felt Better</th>
<th>Felt Worse</th>
<th>No Change</th>
<th>Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Dose Iodine</td>
<td>25.28%</td>
<td>28.37%</td>
<td>46.25%</td>
<td>356</td>
</tr>
<tr>
<td>Iodine restriction</td>
<td>31.7%</td>
<td>7.17%</td>
<td>61.13%</td>
<td>265</td>
</tr>
</tbody>
</table>
Selenium from Brazil Nuts

• **Myth: I need to eat my Brazil nuts to get Selenium**

• Selenium content in Brazil nuts is variable. Also, many people may be sensitive to them! Supplement of 200 mcg selenium methionine has been clinically tested to show a reduction in thyroid antibodies
Selenium and the thyroid gland: more good news for clinicians.

Drutel A¹, Archambeaud F, Caron P.

Author information
¹Department of Endocrinology and Metabolic diseases, Hôpital du Cluzeau, Limoges Cedex, France.

Abstract
The thyroid is the organ with the highest selenium content per gram of tissue because it expresses specific selenoproteins. Since the discovery of myxoeedematous cretinism and thyroid destruction following selenium repletion in iodine- and selenium-deficient children, data on links between thyroid metabolism and selenium have multiplied. Although very minor amounts of selenium appear sufficient for adequate activity of deiodinases, thus limiting the impact of its potential deficiency on synthesis of thyroid hormones, selenium status appears to have an impact on the development of thyroid pathologies. The value of selenium supplementation in autoimmune thyroid disorders has been emphasized. Most authors attribute the effect of supplementation on the immune system to the regulation of the production of reactive oxygen species and their metabolites. In patients with Hashimoto's disease and in pregnant women with anti-TPO antibodies, selenium supplementation decreases anti-thyroid antibody levels and improves the ultrasound structure of the thyroid gland. Although clinical applications still need to be defined for Hashimoto's disease, they are very interesting for pregnant women given that supplementation significantly decreases the percentage of postpartum thyroiditis and definitive hypothyroidism. In Graves' disease, selenium supplementation results in euthyroidism being achieved more rapidly and appears to have a beneficial effect on mild inflammatory orbitopathy. A risk of diabetes has been reported following long-term selenium supplementation, but few data are available on the side effects associated with such supplementation and further studies are required.

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PMID: 23046013 [PubMed - indexed for MEDLINE]
Diet Will Heal All

• Myth: If I just take out more foods, I will be healed

• While some people have had great success on restrictive diets like the AIP diet, (I’m a big fan myself), if a person has been on a clean diet x 3 months and not seeing results or getting stuck, you will need to test for gut infections & other root causes ASAP, as you run the risk of them losing more foods.
More on Optimizing Nutrition

www.hackinghashimotos.com/webinar
Hashimoto’s Beyond Nutrition
Diet usually will heal/help...

Hashimoto’s is a combination of

- Food sensitivities (gluten, dairy, soy - most common, others too)
- Nutrient deficiencies (nutrient dense, veggies, adequate protein) (processed foods hurt)
- Adrenal Issues (low carb, low sugar, high fat)
- Gut Imbalance (fermented foods)
- Toxins (low in mercury fish, not too much iodine)
Diet will sometimes help...

• **Nutrient deficiencies**
  – But often supplements are needed due to poor digestion (not enough nutrients in food)
  – Sometimes may need digestive enzymes
  – Sometimes nutrient deficiencies caused by infections, may need protocols to clear
  – Sometimes nutrient deficiencies caused by toxins, may need protocols to clear

• **Multiple Food Sensitivities**
  – May be triggered by infection
Diet usually won’t heal...

• **Chronic infections** that can trigger autoimmune disease... may require treatments, herbs, sometimes even antibiotics, antifungals, antivirals etc.

• **Toxicity** may require avoidance, supplements, medications and advanced treatments

• **Emotions/stress** in your life
When to Move On...

• If you’ve been on a GF diet for 3 months, and still not in remission
• If you are losing more and more foods
• When you’ve plateaued with diet
Nutritional Non Responders
Nutrition Protocol “Non-Responders”

People who continue to have Hashimoto’s symptoms and antibodies eating the cleanest diet present with the following root causes:

① Toxicity – 95% had moderate to high results on toxicity scale

② Advanced adrenal fatigue (catabolic)-93%

③ Infections -78%
2015 Adrenal Test Results

All Tested in Quarter (n=14)  Stage 3 Breakdown (n=13)
Fall 2015 401H Test Results

401H Test Results 2015 (n=14)

- Blastocystis (4)
- Clean (3)
- Blasto + Yeast (1)
- Cryptosporidium (1)
- Endo imax nana (1)
- H Pylori (3)
- Idoamoeba (1)
What I Do With Clients
Two Pronged Approach

Vulnerabilities
- Food
- Nutrients
- Stress

Triggers
- Infections
- Adrenals
- Toxins
Here are the results from previous “non-responders”:

- 97% improved their knowledge of Hashimoto’s
- 81% saw an improvement/resolution in depression
- 80% saw a reduction in stomach pain
- 75% saw a reduction in joint pain
- **74% saw an improvement in fatigue**
- 73% saw a reduction in TSH
- 71% improved their acid reflux
- 65% saw an improvement in symptoms after the liver cleanse (Module 4)
Stats Cont’d

• 62.5% improved brain fog
• 62% improved weight
• 61% reduced their irritability
• 56% reduced their TPO antibodies
• 54% reduced their palpitations
• 52% saw an improvement morning fatigue
• 50% reduced night sweats
• 45% reduced hair loss
• 45% saw improvement in insomnia
• 44% saw a reduction in TG Antibodies
### Root Cause Assessment

<table>
<thead>
<tr>
<th>Condition</th>
<th>Low Risk</th>
<th>Intermediate Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Deficiency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothyroid</td>
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<td></td>
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<tr>
<td>Emotional</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sleep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIBO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Sugar Imbalance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parasite</td>
<td></td>
<td></td>
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<tr>
<td>H Pylori</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dietary Trigger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dental Trigger</td>
<td></td>
<td></td>
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</tbody>
</table>
My Secret Weapon?

Start with Liver Cleanse!

65% of Hashimoto’s Hackers saw an improvement in symptoms after the liver cleanse (Module 4)
A Christmas Story

Michelle, 45
① Multiple chemical sensitivity
② Arthritis
③ Elevated TSH
④ Heart palpitations
⑤ Elevated TPO

“I can now walk past a Yankee candle store at the mall and not hold my breath!”
2 Week Liver Cleanse Overview

- GF/DF/SF/Clean
- Green Smoothie Breakfast (pea protein)
- Salads for lunch
- Meat + Crucifers for Dinner
- Lemon water, green juice, cilantro juice

- Paleo Cleanse (DFH)
- Homocysteine Factors (PE) (2/day)
- Amino D-Tox (DFH) (6/day)
- NAC 900mg (PE) (2/day)
- Magnesium Citrate 150mg (PE) (1-2 HS)
Cheryl, 31: Full Program

1. Hashimoto’s
2. IBS
3. PCOS
4. Brain Fog
5. Celiac disease
6. Overweight
7. Eczema, psoriasis, asthma
8. Depression
9. Anxiety
10. Fatigue
11. Alopecia areata
12. Sleeping for 14 hours
13. Sleep apnea
14. Premature ovarian failure
15. Migraines, headaches
Who Are You Really Feeding?
Blastocystis hominis & Hashimoto’s


Eradication of Blastocystis hominis prevents the development of symptomatic Hashimoto’s thyroiditis: a case report.

Rajič B1, Arapović J, Raguž K, Bošković M, Babić SM, Maslač S.

+ Author information

Abstract
In this case report we describe a 49 year-old man who presented with chronic urticaria, angioedema and soft stool consistency. During diagnostic examinations Hashimoto's thyroiditis was found even though the patient never had clear symptoms of this disease. Blastocystis hominis was isolated through a stool microbiologic examination, implicating that this parasite can cause the development of Hashimoto's thyroiditis and chronic urticaria. After two-weeks treatment with metronidazole the Blastocystis hominis was eradicated, then urticaria and angioedema disappeared. During the four years of follow-up, the patient presented without any symptoms, whereas thyroid hormones were normalized and anti-thyroid antibodies declined. For the first time in the literature we show that eradication of Blastocystis hominis can prevent the development of both symptomatic Hashimoto's thyroiditis and chronic urticaria.

Blastocystis hominis

• Protozoa (trophozoite and cyst form)
• Considered to be a commensal organism by most doctors, despite studies suggesting otherwise
• Connected to IBS, chronic urticaria (hives)
  – Resolution after treatment
• Can cause leaky gut
• Multiple strains exist
Symptoms

• Multiple food sensitivities
• Fatigue
• Hives
• IBS
• Pain
  – Not all may have all of these, some may be asymptomatic!
Who are you feeding?

Diet for Blasto

– Diet alone will NOT eradicate this pathogen. It can eat anything (even probiotic bacteria in our gut have been suggested as a food!)

– Some patients are able to manage symptoms with an extensive exclusion diet, which may include exclusion of refined sugar, wheat, dairy products, rice, corn, carbonated drinks, tea, coffee, alcohol, and fruit.
Treatment concerns

- Resistant to standard antibiotics used (metronidazole)
- The issue with the Blasto is that it can change state to a cyst form, where it is not penetrable to the medications, so you need to make sure you get it in the right lifecycle stage.
Blasto Herbal Protocol

• 60 day protocol, covers two lifecycles, with three herbs to prevent resistance
  – Artemesia: 2 three times per day
  – Candibactin BR: 2 three times per day
  – Oil of Oregano: 2 three times per day

• Lipase containing digestive enzyme (Digestive enzymes ultra)

• S Boulardii: 2 three times per day (up to 8 per day)
Blasto-Medications

- Alinia 1000mg twice day x 3 days, repeat in two weeks, then once again two weeks later.
  - Alternate options are: Alinia 500mg twice daily x 30 days, or Alinia 1000mg twice per day x 2 weeks, but Alinia will kill of lots of good flora and you may have extreme die-off symptoms (being exhausted, body pains, mood changes)
  - Nystatin should be taken with Alinia or after treatment for 1-3 months to address the fungal overgrowth, Nystatin 500,000 units: two capsules three times per day x 30-90 days
For Elusive Root Causes
LDN

• Low Dose Naltrexone
  – FDA-approved medication used for opioid withdrawal at a dose of 50 mg per day
  – Increases T-regulatory cytokines and modulates TGF-B, leading to a reduction of Th-17, the promoter of autoimmunity.
  – Helpful for many symptoms
    • Rates of lab’s in 1000+ range down to 100’s
  – Starting dose for HT 1.5mg
    • 1.5–4.5 mg per day are usually recommended
  – Compounding pharmacist
  – Survey: 38.2% better/4.56% worse/57.3% no change (n=241)
Connect with me

• [www.thyroidpharmacist.com/labs](http://www.thyroidpharmacist.com/labs) to get a listing of my favorite functional medicine lab tests for uncovering root causes & nutrient depletions webinar

• [www.hackinghashimotos.com/webinar](http://www.hackinghashimotos.com/webinar)

• Book Signing

• Panel
Resources I Provide

• Hashimoto’s Thyroiditis: Lifestyle Interventions for Finding and Treating the Root Cause Book

• Hacking Hashimoto’s Program

• Root Cause Recipe Portal
  – www.rootcauserecipes.com

• Hashimoto’s Institute Practitioner Training
  – www.hashimotosinstitute.com