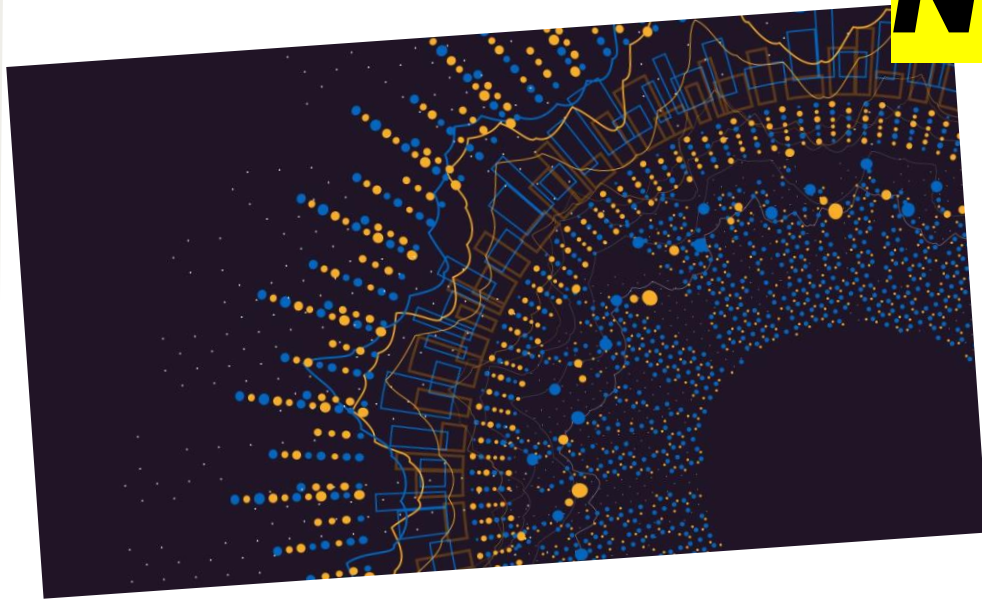




IBD Well Body
Functional Nutrition

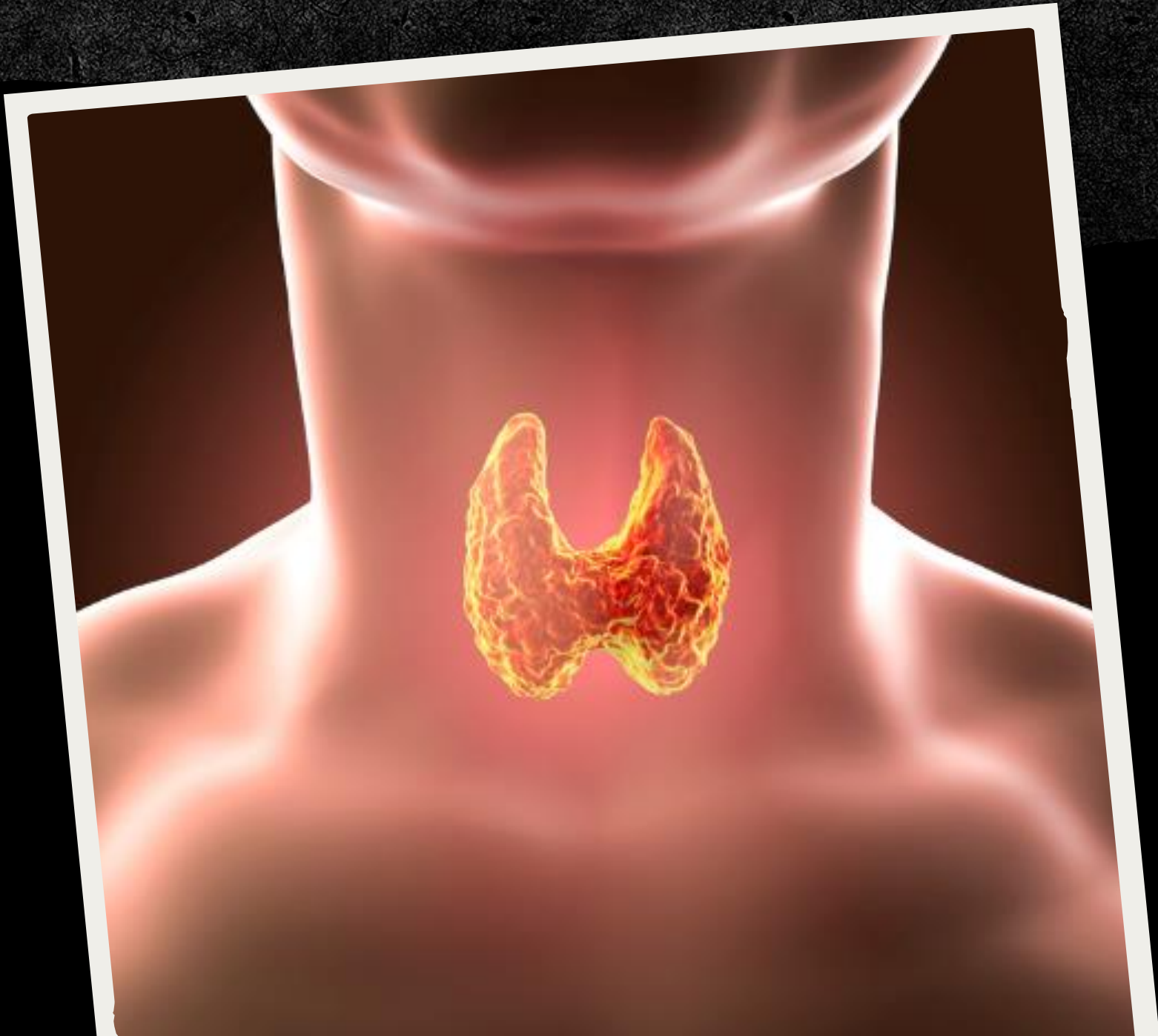
Understanding Hashimoto's from a Nutritionist's Lens



“My doctor keeps telling me my
labs look good, but I still feel
like sh@t!”



-By JoAnn Clinton, MSCN



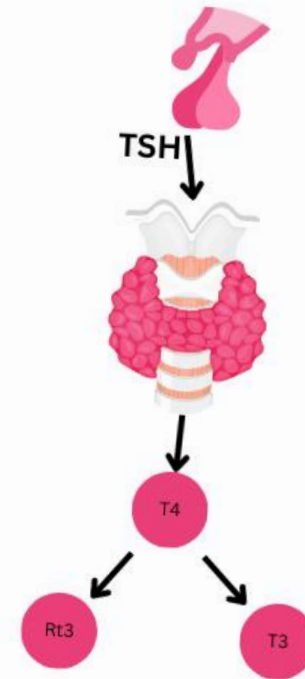
Your thyroid

- The thyroid gland has far-reaching impact on nearly every cell in the body. It is the “gas peddle” for the cells.
- Plays a key role in metabolism.



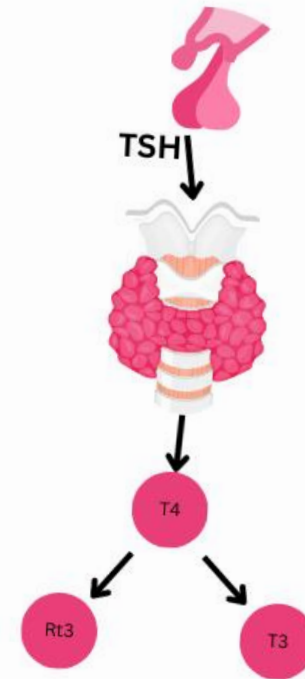
Thyroid Hormones

- TSH is a hormone produced by the pituitary gland, and its primary function is to stimulate the thyroid gland to produce and release T3 and T4. When TSH binds to specific receptors on the surface of thyroid cells, it triggers a series of cellular processes that lead to the synthesis and release of thyroid hormones
- The thyroid primarily produces two hormones: thyroxine (T4) and triiodothyronine (T3). The majority of the thyroid hormone produced is in the form of T4. However, T4 is considered a prohormone, as it is relatively inactive compared to T3, which is the more biologically active form.
- The conversion of T4 to T3 mainly occurs in various body tissues outside the thyroid gland, particularly in the liver, kidneys, and other peripheral tissues. This conversion is facilitated by enzymes that remove one iodine molecule from the T4 molecule, transforming it into T3. The resulting T3 hormone is more potent and directly influences the body's metabolism and other functions.
- Reverse T3 is considered biologically inactive, meaning it does not have the same physiological effects as active T3. Unlike T3, which enhances cellular metabolism and energy production, rT3 has a weaker binding affinity for thyroid hormone receptors on cells, resulting in little to no metabolic effect.
- The production of rT3 is believed to be a protective mechanism in response to stress or other critical conditions. In situations like illness, injury, or extreme dieting, the body may temporarily increase the production of rT3 while decreasing the production of active T3. This shift helps conserve energy and resources during stressful times when the body may need to prioritize other vital functions.



What are some factors effecting thyroid function?

- The ability to make T4 (thyroxine), nutrients needed are: amino acid tyrosine, minerals: iodine, selenium, iron, zinc, and magnesium along with vitamins: A, E, B2, B3, B6, C, and D.
- Conversion of T4 to T3 (triiodothyronine): Minerals: Zinc and Selenium.
- Cellular uptake: Vitamin A, zinc, and exercise.



What causes things to go wrong?

- Poor nutrition, fad diets, gut dysbiosis, “leaky gut”
- Lifestyle – high stress, poor sleep
- Autoimmune thyroiditis – Hashimoto’s thyroiditis



Indicators of Hypothyroidism

- Indicators of hypothyroidism typically result when the T4 and T3 production slows down and their values are low and TSH values are elevated. This is known as primary hypothyroidism.
- Individuals with Hashimoto's thyroiditis (HT), the presence of antibodies will exist along with low T4/T3 production. The two antibodies, anti-thyroid peroxidase (TPOAb) and anti-thyroglobulin antibodies (TgAb) are a good indicator of Hashimoto's.



Let's talk about Hashimoto's

- What is it? Hashimoto's thyroiditis is an autoimmune disease. Autoimmune diseases occur when the body's immune system, which is designed to protect against harmful substances like bacteria and viruses, mistakenly targets its own healthy tissues.
- Thyroid Involvement: In Hashimoto's thyroiditis, the immune system targets the thyroid gland. This results in inflammation and damage to the thyroid tissue.
- Common cause of hypothyroidism: As the thyroid gland is damaged, it becomes less able to produce thyroid hormones, mainly thyroxine (T4) and triiodothyronine (T3). This can lead to a condition called hypothyroidism, which means the thyroid hormones are produced in lower amounts than the body needs.
- Symptoms: The symptoms of Hashimoto's thyroiditis are mainly those of hypothyroidism and may include fatigue, weight gain, sensitivity to cold, dry skin, hair loss, constipation, and feeling mentally sluggish.
- Diagnosis: Diagnosis of Hashimoto's thyroiditis is usually made through blood tests that measure thyroid hormone levels and specific antibodies related to the condition. An ultrasound of the thyroid gland may also be performed to assess its size and appearance.



Factors that influence the development of Hashimoto's

Image Source: Ichnatowicz P, Drywień M, Wątor P, Wojsiat J. The importance of nutritional factors and dietary management of Hashimoto's thyroiditis. Ann Agric Environ Med. 2020 Jun 19;27(2):184-193. doi: 10.26444/aaem/112331. Epub 2019 Oct 2. PMID: 32588591.

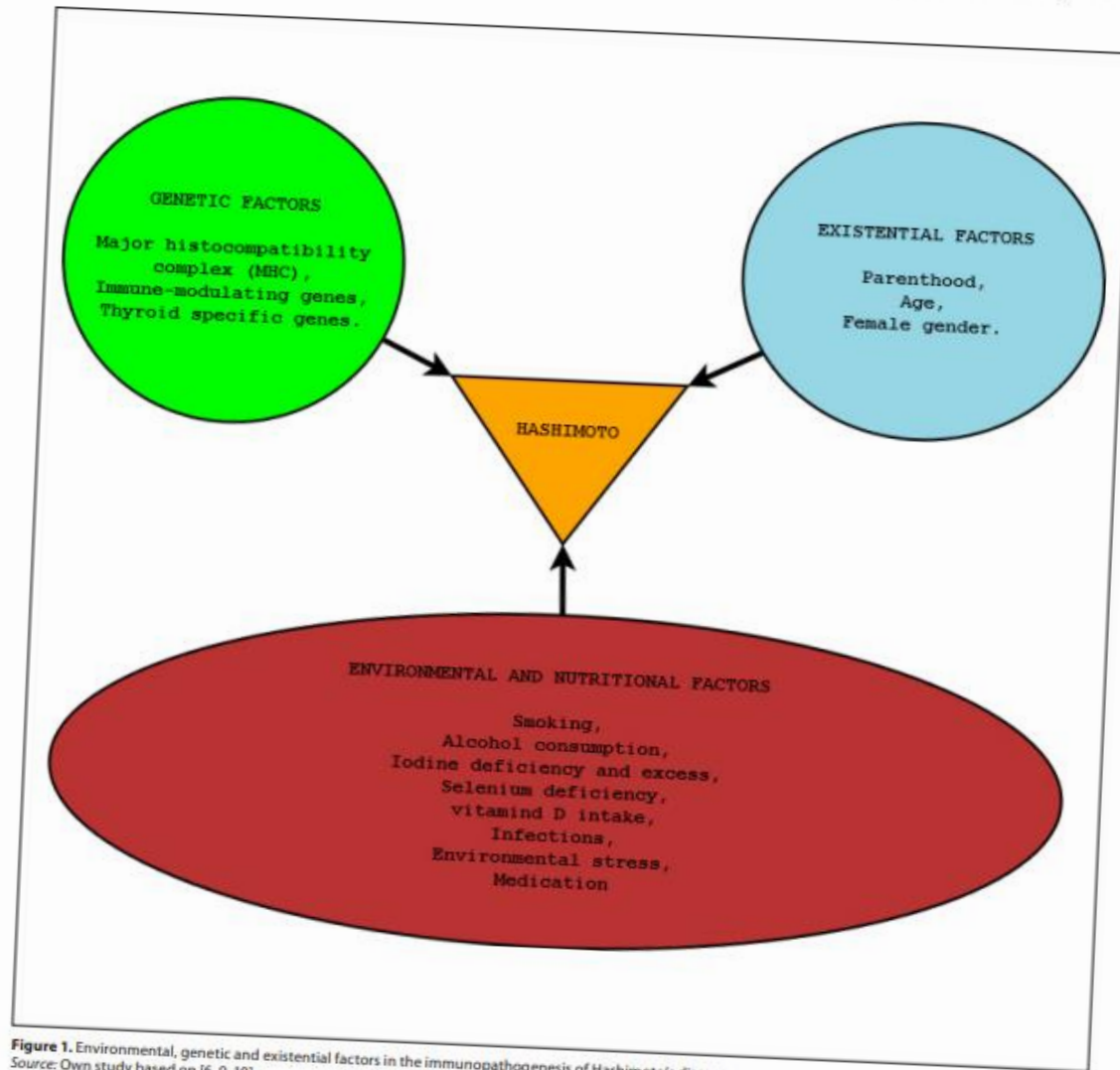
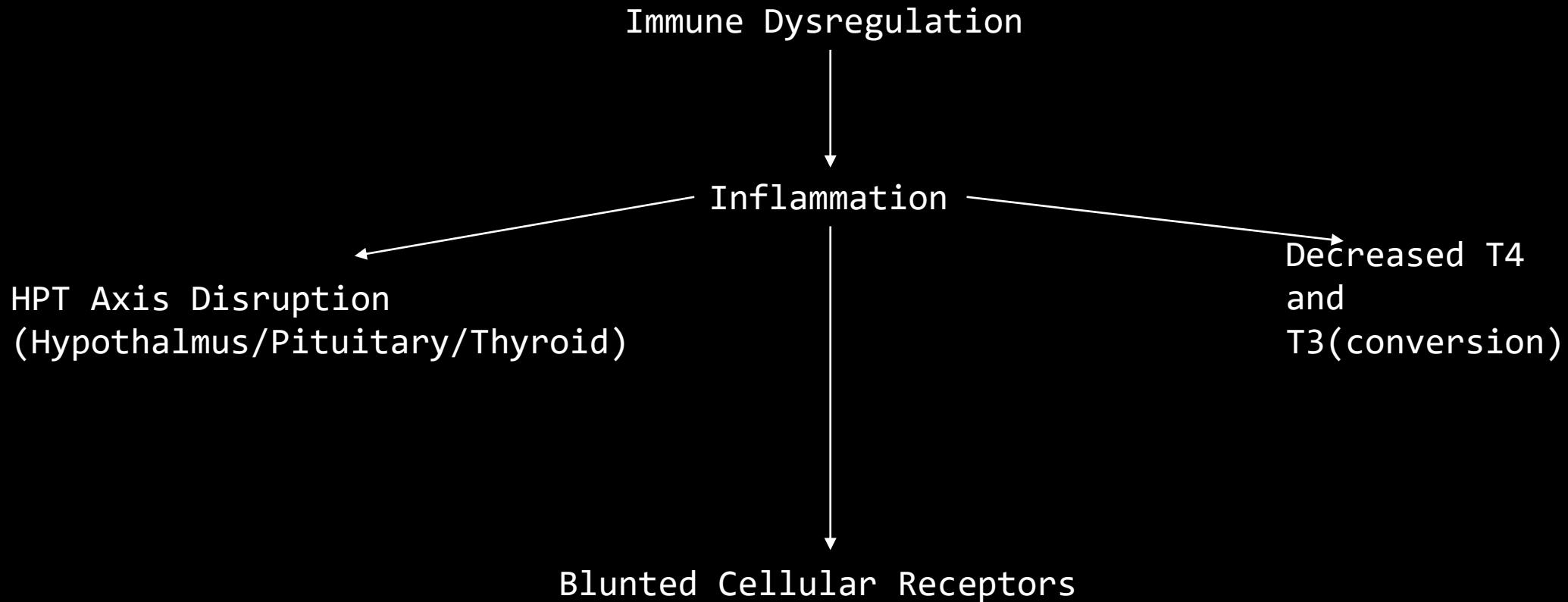


Figure 1. Environmental, genetic and existential factors in the immunopathogenesis of Hashimoto's disease. Source: Own study based on [6, 9, 10]



Thyroid/Immune Involvement



Biomarker	Reference Range
TSH	0.40-4.50 mIU/L
Free T4	0.9-2.2 ng/dL
Free T3	2.3-4.2 pg/mL
Homocysteine	Male <11.4 umol/L Female <10.4 umol/L
B12	200-1100 pg/mL
Methylmalonic Acid	87-318 nmol/L
Zinc RBC	9.0-14.7 mg/L
Selenium RBC	120-300 mcg/L
Folate RBC	>280 ng/mL RBC
Omega 3 index	High risk <4%, Intermediate risk 4-8%, Low Risk >8%
CRP	<8.0 mg/L
Hemoglobin	11.5-15.3 g/dL
Ferritin	16-154 ng/mL



Other Labs

- Anti-thyroid peroxidase (TPOAb) functional range: 0-30 IU/mL
- Anti-thyroglobulin antibodies (TgAb) less than 20 IU/mL or less
- GIMAP with Zonulin – stool test to investigate microbiome. Presence of zonulin is indicative of leaky gut



Functional Nutrition Approach for Treating Hashimoto's

- Obtain a thorough health history
- Address any nutrient deficiencies that show up in the lab
- Place client on thyroid supportive meal plan that is anti-inflammatory and supports motility and antioxidant capability through a variety of fruits and veggies.
- Elimination of gluten and dairy – Gluten should be eliminated due to cross-reactions between gliadin and thyroid antigens. Lactose should be eliminated because of intolerance and interactions with *Levothyroxine*.
- Address Stress - Chronic stress plays an important role in the proper functioning of the immune system
- Address leaky gut/malabsorption – There is a relationship between the state of microbiota and inflammatory processes and its impact on thyroid function.



About me...

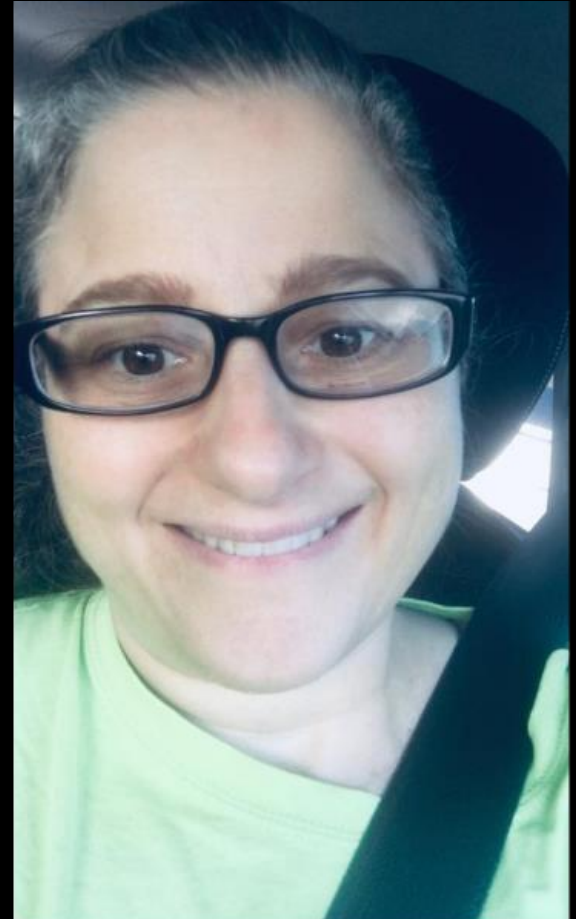
Clinical Nutritionist

Lymphedema Therapist

11 years' experience in the wellness industry

Suffered with Hashimoto's for many years – diagnosed in 2006

Worked with many clients to address their thyroid dysfunction



***Hashimoto's Food
List and 7-Day Menu
Food-first approach***

Enjoy!



Micronutrient	Food Sources
vitamin D	fatty fish, fish oil, sun-dried mushrooms, chicken eggs
B group vitamins	meat, fish, chicken eggs
vitamin A	kale, carrot, pumpkin, liver, spinach, egg yolk, butter, dried apricot
vitamin C	(although not a rich source, it raises the level in blood), black currant, kiwi, strawberry, orange, mango, lemon, melon, kale, spinach, tomatoes, peppers (especially red peppers); vegetables and fruit are basically the main sources
vitamin E	avocado, fish oil
magnesium	cocoa and bitter chocolate, pumpkin seeds, avocado, nuts, kefir, and green vegetables
zinc	cocoa and bitter chocolate, meat, kefir, yogurt, pumpkin seeds, nuts, spinach, mushrooms
iron	meat, animal offal, cocoa and bitter chocolate, spinach, sardines, seafood, pumpkin seeds
iodine	iodized salt, fish (cod, tuna) and seafood as well as seaweed, iodized milk and dairy products, if elimination is not required, chicken eggs, plum, especially dried plums, maize
selenium	Brazilian walnut, fish (sardines, halibut, salmon, tuna), meat, spinach, liver

Day	Breakfast	Lunch	Snack	Dinner	Snack
1	Gluten-free oatmeal with chia seeds, flaxseeds, mixed berries, and almond milk	Quinoa salad with mixed greens, cherry tomatoes, cucumber, avocado, and grilled chicken.	Green smoothie with spinach, banana, and almond milk	Baked salmon with roasted sweet potatoes, steamed broccoli, and a side of sauerkraut.	Carrot sticks with hummus.
2	Smoothie bowl with spinach, mixed berries, almond milk, and topped with gluten-free granola.	Brown rice stir-fry with mixed vegetables, grilled chicken, and coconut aminos.	Apple slices with almond butter.	Grilled turkey breast with quinoa, roasted Brussels sprouts, and a side of kimchi.	Mixed nuts and dried fruit.



Day	Breakfast	Lunch	Snack	Dinner	Snack
3	Chia pudding with almond milk, mixed berries, and a drizzle of honey.	Lentil soup with mixed vegetables, served with a side of gluten-free toast.	Celery sticks with almond butter.	Baked cod with steamed green beans, wild rice, and a side of pickles.	Cucumber slices with guacamole.
4	Gluten-free toast with avocado, smoked salmon, and a sprinkle of hemp seeds.	Buddha bowl with quinoa, mixed greens, roasted chickpeas, avocado, and tahini dressing	Rice cakes with almond butter and sliced banana.	Grilled chicken with roasted butternut squash, steamed asparagus, and a side of kombucha.	Sliced bell peppers with hummus.



Day	Breakfast	Lunch	Snack	Dinner	Snack
5	Overnight oats with gluten-free oats, almond milk, chia seeds, mixed berries, and a drizzle of honey.	Sushi bowl with brown rice, smoked salmon, avocado, cucumber, and nori sheets.	Mixed berries with a handful of almonds.	Baked turkey meatballs with zucchini noodles, marinara sauce, and a side of sauerkraut.	Carrot sticks with guacamole.
6	Smoothie with spinach, mixed berries, almond milk, and a scoop of dairy/whey-free protein powder.	Salad with mixed greens, grilled chicken, cherry tomatoes, cucumber, and avocado.	Sliced pear with almond butter.	Baked trout with roasted sweet potatoes, steamed kale, and a side of kimchi.	Celery sticks with hummus



Day	Breakfast	Lunch	Snack	Dinner	Snack
7	Gluten-free granola with almond milk, mixed berries, and a sprinkle of flaxseeds.	Stuffed bell peppers with ground turkey, quinoa, and mixed vegetables	Green smoothie with spinach, banana, and almond milk	Grilled shrimp with brown rice, steamed broccoli, and a side of pickles.	Sliced cucumber with almond butter.

Always purchase whole-food ingredients. Use wild caught fish instead of farmed, grass-fed beef, and pasture-raised poultry.

Remember to drink plenty of water throughout the day and adjust portion sizes according to your needs



Let's work together!

- Schedule a free discovery call here:
 - + <https://integrativebodydynamics.com/clinical-nutrition>
 - + Or call/text 602-730-2508
 - + Email: info@ibdaz.com

Price breakdown:

150.00 for 90-minute initial consult

75.00 for each follow-up - it is recommended at least 5 follow-up visits

