



Transform Your Thyroid, Transform Your Body

*ACHIEVING OPTIMAL METABOLISM AND “INTERNAL
PACE” THROUGH AN INTEGRATIVE APPROACH*

WITH LAUREN HOUSER, CRNP

AND GEORGIA TETLOW, MD

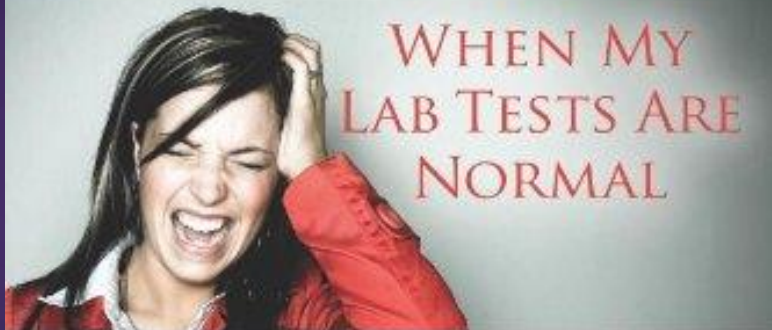
Overview



- The Science of thyroid function
- Symptoms Review
- Common Root Causes of thyroid dysfunction
- Nutritional Support for Thyroid health
- Support for Autoimmune Thyroid
- Role of Adrenal Health
- Nutrition for Hormonal Health

FOREWORD BY ARISTO VOJZANI, PHD, MSc, MT

WHY DO I STILL HAVE THYROID SYMPTOMS?



WHEN MY
LAB TESTS ARE
NORMAL

*A revolutionary breakthrough in understanding
Hashimoto's disease and hypothyroidism*

Datis Kharrazian, DHSc, DC, MS

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Thyroid metaphors:

- Thyroid as spark plug for energy production
- Thyroid sets the body's speed limit

Due to the nature of its function, it is **highly sensitive** to slight alterations in the body

Many opportunities to support thyroid health!

Factors that Affect Thyroid Function

Factors that contribute to production of thyroid hormones

- Nutrients: iron, iodine, tyrosine, zinc, selenium, vitamin E, B2, B3, B6, C, D

Factors that inhibit production of thyroid hormones

- Stress
- Infection, trauma, radiation, certain medications
- Fluoride
- Toxins, i. e., pesticides, mercury, cadmium, lead
- Autoimmune disease, i. e., Celiac

Factors that increase conversion of T4 to RT3

- Stress
- Trauma
- Low-calorie diet
- Inflammation
- Toxins
- Infections
- Liver/kidney dysfunction
- Certain medications

Factors that increase conversion of T4 to T3

- Selenium
- Zinc

RT3 T3

(T3 and RT3 compete for receptor sites on the cell)

Factors that improve cellular sensitivity to thyroid hormones

- Vitamin A
- Exercise
- Zinc

Nucleus/
Mitochondria
Cell



T4



Thyroid Hormone Overview (Simplified)

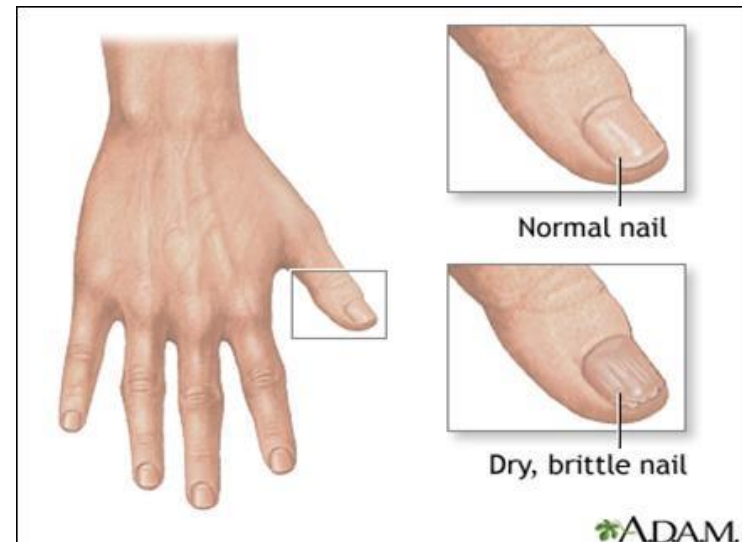
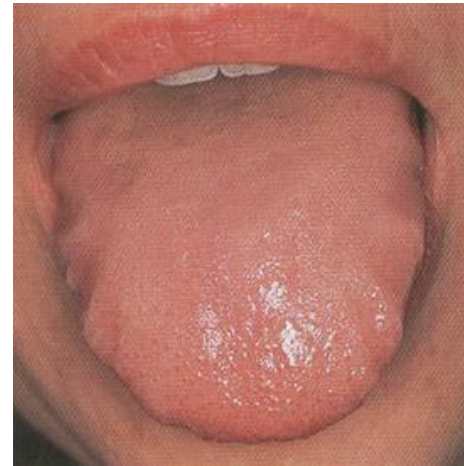
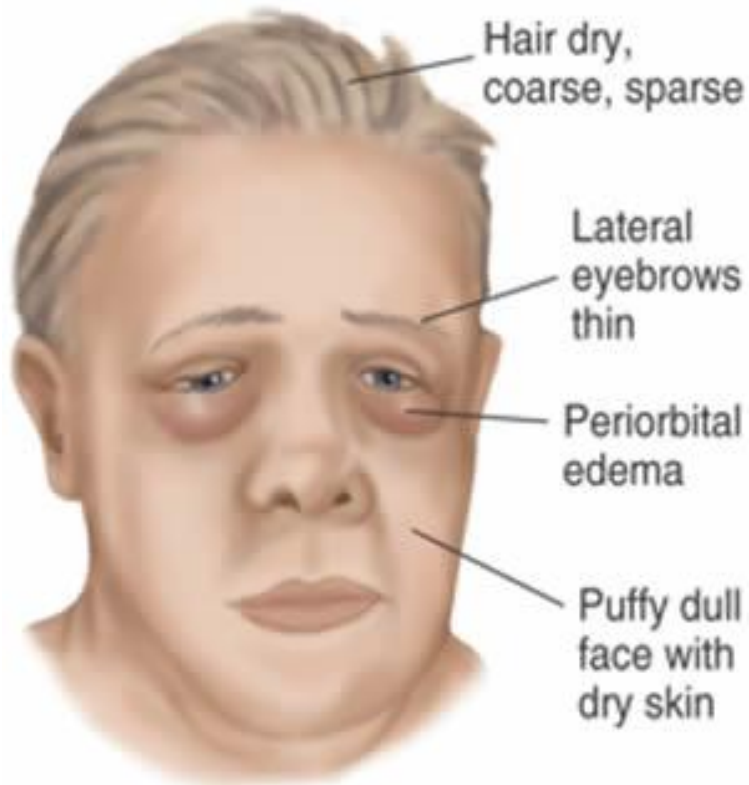
1. Pituitary gland secretes TSH
2. Thyroid gland secretes T4 and T3 (active form; only about 7% secreted is T3)
3. T4 is converted into active T3 in the liver (and other organs)
4. Another 20% of T4 is converted into active T3 in the intestines

Notice the synergy between different organs and the importance of gut health

Symptoms of Hypothyroidism- Underactive

- ▶ **Metabolic imbalances:** weight gain, sensitivity to cold, increased cholesterol & triglycerides
- ▶ **Endocrine:** loss of libido in men, menstrual abnormalities and fertility issues in women
- ▶ **Hair, skin, nails:** hair is dry, coarse and brittle; skin may be rough, dry and scaly; nails become thin and brittle with transverse grooves; dermatitis herpetiformis
- ▶ **Psychological:** depression, difficulty concentrating, forgetfulness, mood disorders
- ▶ **Muscular & skeletal:** muscle weakness, joint stiffness, tenderness and pain
- ▶ **Cardiovascular:** increased risk of atherosclerosis and heart attack due to increased lipids and increased inflammatory markers; hypertension and reduced heart function
- ▶ **Digestive:** chronic constipation, increased risk for gut infections, increased risk of developing food intolerance, low stomach acid
- ▶ **Detoxification:** sluggish and congested liver and gallbladder, impaired kidney function
- ▶ **Other:** increased susceptibility to colds, slow wound healing, morning headache, anemia (12% have pernicious anemia); loss of outer portion of eyebrows

Let your body be your compass. Look for physical signs of thyroid imbalance.



Common Causes of Hypothyroidism & Hashimoto's

- ▶ Nutrient deficiencies (iodine, cofactors for thyroid hormone synthesis like zinc & selenium, Vit D)
- ▶ Autoimmunity (Hashimoto's is most frequent cause of hypothyroidism in the U.S.)
- ▶ Imbalanced hormones (postpartum, insulin resistance, PCOS)
- ▶ Chronic stress (impairs T4 → T3)
- ▶ Chronic inflammation, infections, and viruses = chronic immune and stress response
- ▶ Environmental toxins
- ▶ Certain medications

Many opportunities to support thyroid health!

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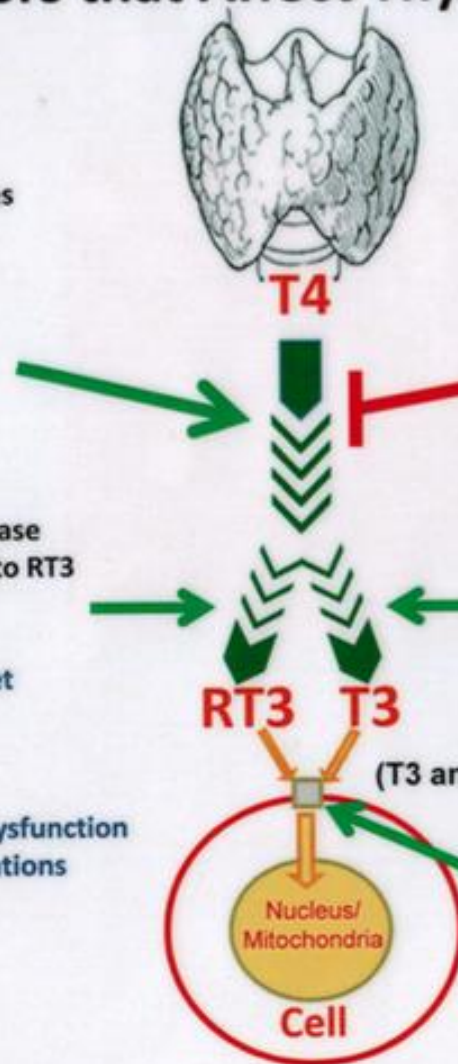
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- Exercise
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General Nutritional Support for Thyroid Health

- ▶ Organic foods richer in trace minerals
- ▶ Cook goitrogens and add sea vegetables for those at risk of iodine deficiency
- ▶ Balance blood sugar *coming up next*
- ▶ Support adrenal health *coming up soon*
- ▶ Support gut health since 20% of healthy thyroid hormone conversion depends on it (support gut microbiome, support proper stomach acid, eliminate inflammatory foods, support integrity of gut lining, and consider Mg titration to help with constipation)

General Nutritional Support for Thyroid Health

- ▶ Zinc, Vit E, and Vit A create thyroid hormone
- ▶ B2, B3, B6, and C are necessary for hormone synthesis
- ▶ Zinc, Copper, and Selenium are cofactors for iodinase enzymes converting T4 → T3
- ▶ Antioxidants (Vit C, Vit E, curcumin, glutathione) increase thyroid function in animal studies (Murray, Pizzorno, & Joiner-Bey)
- ▶ Vit D to reduce inflammation and support the immune system (be cautious in the presence of infections that disrupt the Vit D receptor)

Support for Hashimoto's Autoimmune Thyroiditis

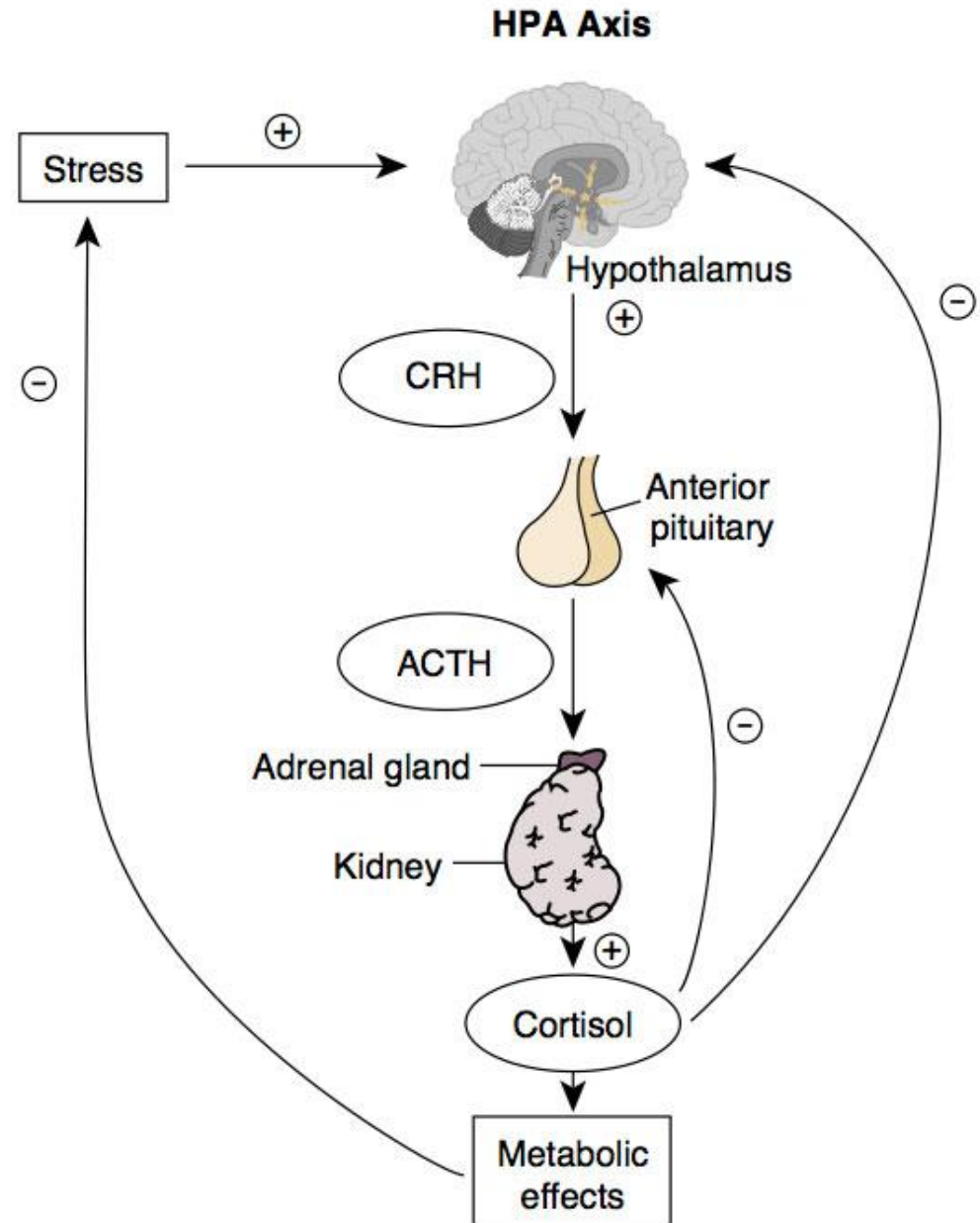
- Gluten free diet
- Elimination diet and detoxification support to reduce antigen load
- Address blood sugar and adrenal health
- Address gut infections
- Support gut integrity

Common Themes

- ▶ Interconnectedness: “all hormones work in concert, they dance with one another” – Bethany Hays, ND
- ▶ All endocrine hormones communicate. When there is imbalance in one it can affect the function of another hormone.
- ▶ Adrenal health impacts thyroid health and vice versa.
- ▶ The endocrine system’s main function is glucose metabolism. It needs to regulate this before all else- importance of low glycemic diet.

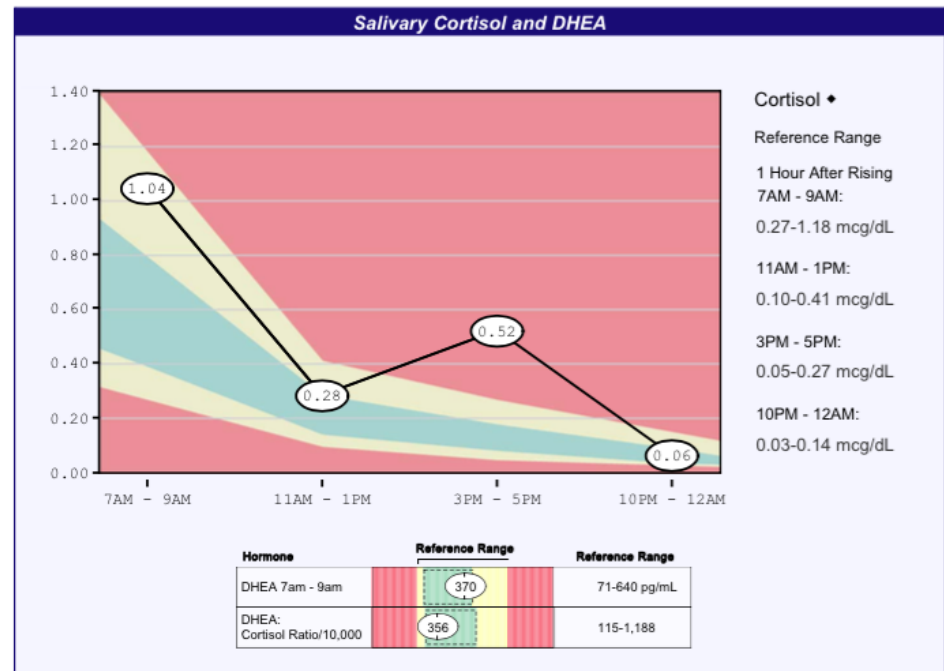
The Importance of Adrenal Health

- Sit on top of the kidneys and secrete cortisol, DHEA, and adrenaline in response to signals from the pituitary gland to help us adapt to stress (internal/external)
- When stress becomes chronic, the adrenals can no longer keep up with the demand
- ↑ Cortisol = ↑ Glucose



Cortisol & DHEA

- ▶ **Cortisol:** converts protein to energy, stimulates liver to convert amino acids to glucose, counters inflammation & allergies by suppressing the immune system, helps maintain blood pressure, aids in stress response
- ▶ **DHEA:** precursor to testosterone and estrogen, improves resistance to viruses/bacteria/parasites/allergies/cancer, prevents osteoporosis, lowers total and LDL cholesterol, increases muscle mass and decreases body fat



Nutrition Support for Insulin Sensitivity

- ▶ Be mindful of glycemic index
- ▶ Eat a high quality protein breakfast
- ▶ Eat a small amount of protein every 2 – 3 hours until your blood sugar stabilizes
- ▶ Eliminate processed carbohydrates and sweets
- ▶ Avoid high sugar foods without fiber, fat, or protein to slow absorption of glucose
- ▶ Avoid fruit juices & carrot juice
- ▶ Avoid adrenal stimulants (green tea OK → ECGC)

Healthy Fats

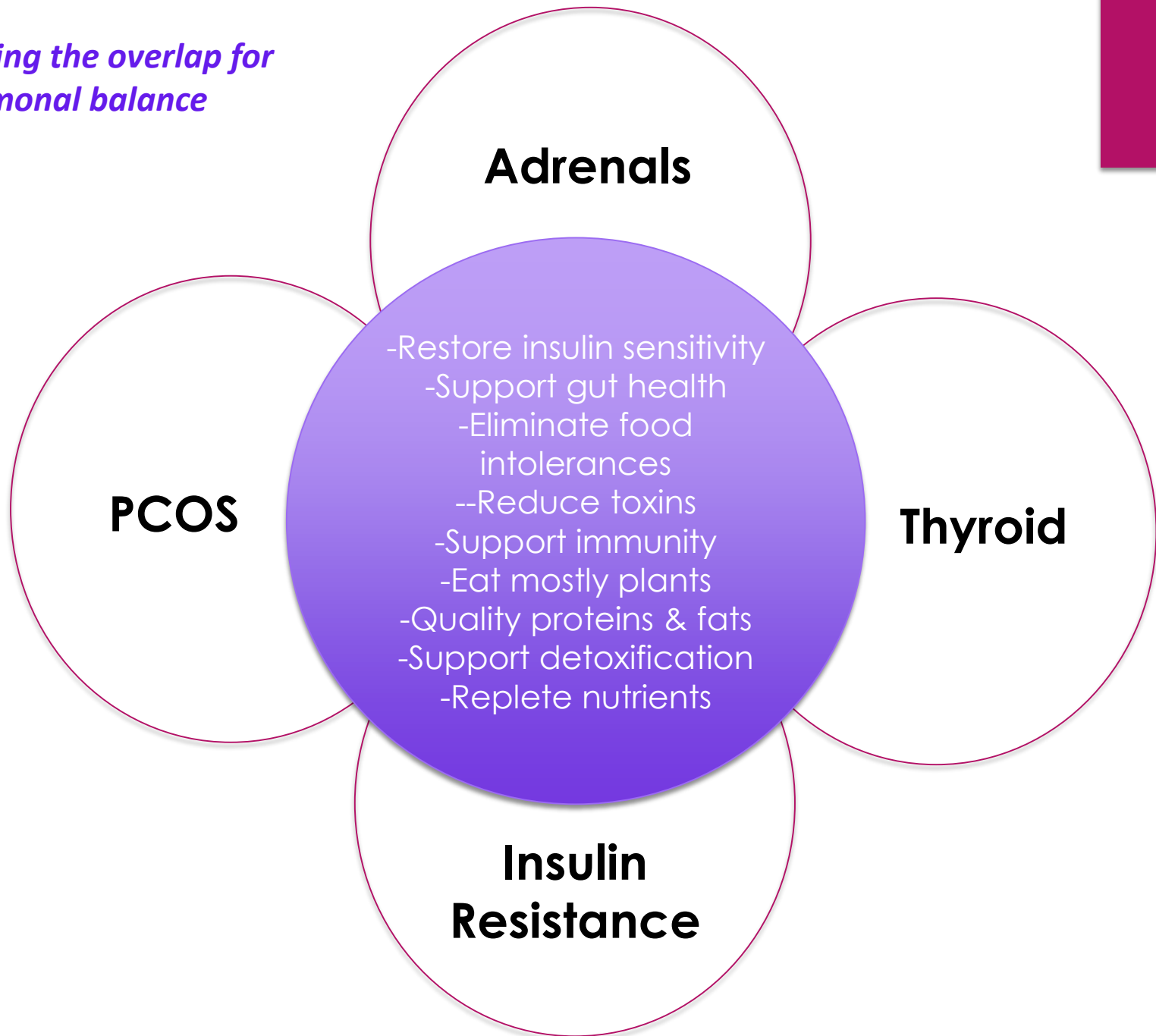
- ▶ Olive oil
- ▶ Olives
- ▶ Nuts
- ▶ Nut butters
- ▶ Avocados
- ▶ Seeds
- ▶ Eggs
- ▶ Fish



Increasing Vegetables

- ▶ Buy fresh and in season
- ▶ Stock up on frozen vegetables for quick meals
- ▶ Buy vegetables that are easy to prepare (pre-cut if you need to save time)
- ▶ Use herbs, spices, and different cooking methods to create variety (steaming, sautéing, roasting)
- ▶ Soups in the colder months & salads in the warmer months
- ▶ Enjoy them as snacks
- ▶ Add to meals (omelets, side dishes, wraps, soups, smoothies)

*Finding the overlap for
Hormonal balance*



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Thank you!



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