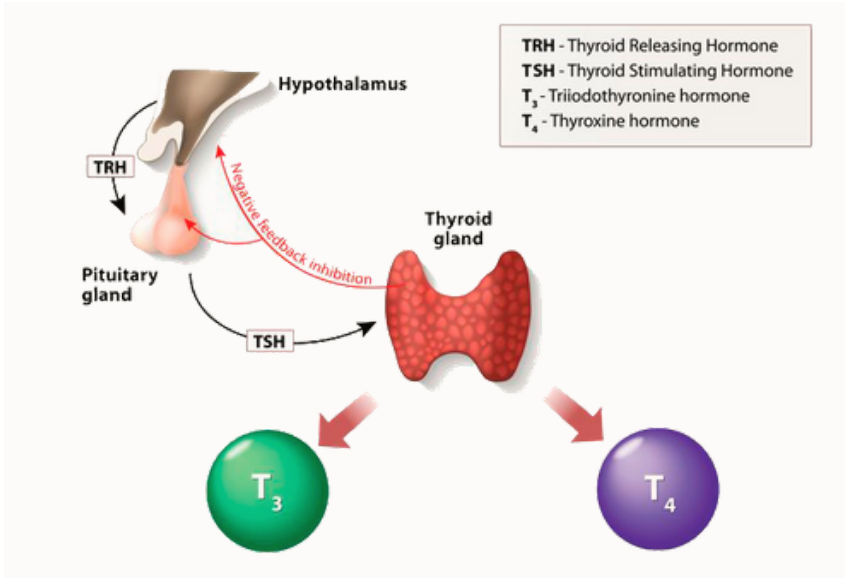


THYROID AND THYROID HORMONES

The thyroid is a gland, and like other glands, its function is to produce hormones, specifically thyroid hormones. Hormones are messengers that tell our body what to do. They communicate information from one end of the body to another throughout your blood



<https://www.uihere.com/free-cliparts/thyroid-hormones-triiodothyronine-thyroxine-thyroid-stimulating-hormone-pituitary-gland-3180727/download>Add a little bit of body text

THYROID LABS

- Thyroid Stimulating Hormone (TSH)
- Free T3 or Triiodothyronine
- Free T4 or Thyroxine
- Anti-TPO (TPO ABs or antibodies)
- Anti-Thyroglobulin (TG ABs or Antibodies)

What Kind of Exercise Supports Thyroid Function?

Aerobic exercise helps with conversion of T4 (storage) to T3 (active) thyroid hormone.

Exercise: Activity that increases heart rate and breathing like: cycling, jogging, swimming, cardio machines.

Frequency: aim for 15-30min, 3 times a week.

THE THYROID REGULATES:

- blood sugar
- bone health
- energy level
- metabolism
- menstrual cycle
- cholesterol
- heart rate
- organ function
- stress hormone response



PATTERNS OF THYROID IMBALANCE

Selenium deficiency

(TOO LITTLE)

↑ TSH

↓ T3

TPO ABs may be elevated but lower than in Hashimoto's

↑ rT3 (↓T3 bc T4 → T3 conversion is less)

Iodine deficiency

(TOO LITTLE)

↑ TSH

↓ T4

↑ T3

ABs

(↑T4 = ↑ Iodine)

Thyroid hibernation

(Low T3 Syndrome)

(ASLEEP FROM DIETING)

↓ TSH

↓ T4

↓ T3

↑ rT3

Peripheral Tissue Resistance

(NOT ABSORBED IN CELLS)

T3, T4, TSH normal ranges

Clinical profile suggests thyroid hormone deficiency

HPA Hypothyroidism

(HIGH CORTISOL/STRESS)

TSH can be high or low

↓ T3

↑ rT3

Less conversion of T4 → T3

Subclinical

Hypothyroidism

(LABS NORMAL RANGE but have SYMPTOMS)

↑ TSH

T4 & T3 levels within range

TPO ABs may be elevated but not very high

Grave's Disease

(HIGH, AUTOIMMUNE)

↓ TSH

↑ T3, T4, rT3

↑ Trab antibodies

TPO ABs may be elevated

Hashimoto's Disease

(LOW, AUTOIMMUNE)

↑ TPO ABs (100s-1000s)

TgAB present

TSH can get high

↓ T4 (over time)

T3 may drop

Hypothyroid Due to

Pituitary

Overproduction

(TUMOR)

↑ TSH



THE THYROID-FOOD CONNECTION

- **Consume foods rich in:**
 - Iodine – saltwater fish, iodized salts, seaweeds
 - Selenium – Brazil nuts, animal foods including seafood
 - Zinc – alfalfa sprouts, pumpkin and squash seeds
 - Iron – animal foods, kale, quinoa, nettles tea, wheatgrass, hijiki seaweed, blackstrap molasses
- **Foods to avoid or have less of:**
 - Avoid consuming goitrogens in excess – raw vegetables from the Brassica family (so lightly cooking or sautéing them), nitrates from processed meats
 - Soy diets >30g/day
 - Pesticides reduce TH. clean 15, dirty 12. Saunas, sweating. Liver support

3 WAYS TO REDUCE PESTICIDES:

1. Clean 15 and Dirty Dozen. See Environmental Working Group
<https://www.ewg.org/foodnews/>
2. Regular sauna use can help remove toxins
3. Liver support with herbs such as **burdock** or **dandelion**

Liver Support Burdock Infusion

½ cup of dried burdock roots
4-5 cups of water

Put roots into a jar and pour boiling water over them, filling the jar to the top. Wait 8-12 hours and then pour off the liquid and squeeze out the roots. Drink 1-2 cups daily.

*Consult a health care provider before use if pregnant, nursing or taking medications

REFERENCES

- Bennett, Robin Rose. The Gift of Healing Herbs: Plant Medicines and Home Remedies for a Vibrantly Healthy Life. North Atlantic Books, 2014.



TIPS FOR THYROID HEALTH

Herbs for thyroid health should be individualized based on each person's pattern and diagnosis. Adaptogenic herbs can be supportive in conjunction with thyroid treatment or while you gather info about your specific pattern.

An adaptogenic tea:

Oatstraw (*Avena sativa*)
Holy Basil (*Ocimum tenuiflorum*)
Licorice (*Glycyrrhiza glabra*)**
Lavender (*Lavendula officinalis*)

1 tsp per cup of hot water. Steep for 20-min-overnight.

Strain herbal material. Drink 1-3 cups daily.

***Consult a health care provider before use if pregnant, nursing or taking medications.**

****Do not take licorice if you have high blood pressure**

Keep Personal Health Records

Collect all of your previous & recent test results and create your own Personal Medical File

DULSE-SESAME SEED MIXTURE

1 ounce dulse flakes
½ cup sesame seeds, soaked and drained

1. Dry-toast dulse in skillet until crispy.
2. Grind to a fine powder.
3. Dry-toast sesame seeds until they have a nutty aroma and begin to pop.
4. Add dulse and grind until seeds are 90% crushed

Use on grains, cereals and salads.

**From Paul Pitchford's "Healing with Whole Foods"*

REFERENCES

- Pitchford, Paul. *Healing With Whole Foods: Asian Traditions and Modern Nutrition* (3rd Edition). 3rd ed., North Atlantic Books, 2002.