

# Thyroid Disorders

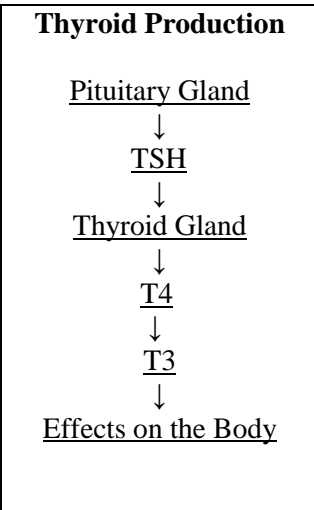
*Sometimes it Takes More than just a Lab Test...*

*The Holistic Approach to Diagnosing and Treating Thyroidism*

*"About 40% of patients who have hypothyroidism are left undiagnosed by solely relying on laboratory tests which has misled both doctors and patients"-Dr. Broda O. Barnes MD*

## The Role of Thyroid Hormone

The thyroid gland produces hormones including thyroxine (T4) and triiodothyronine (T3). These thyroid hormones act as the metabolic regulator of the body. They help the cells in the body produce energy.



The Thyroid Stimulating Hormone (TSH) is released from the pituitary gland which stimulates the thyroid gland to release T4. The body converts T4 to T3, the more active thyroid hormone which is what produces the effects on the body. When there is adequate amount of thyroid hormone, a signal is sent to the pituitary gland that allows TSH to be lowered so the production of thyroid hormones is reduced.

## Conventional Approach of Diagnosing Hypothyroidism

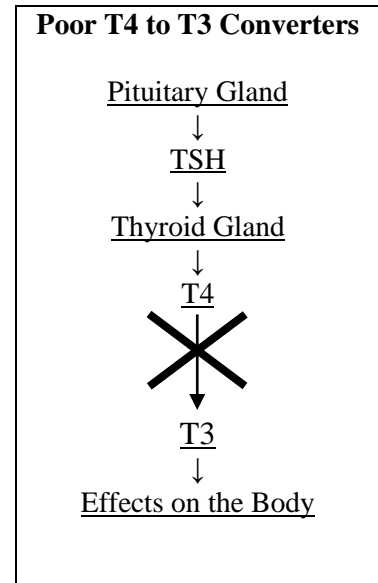
The usual approach to diagnosing hypothyroidism involves the TSH test. When TSH is high, it shows that the pituitary gland is secreting more TSH due to low thyroid hormone levels in the body, thus the diagnosis of hypothyroidism. If the TSH test is within normal range, physicians typically rule out hypothyroidism.

<b>TSH Ranges:</b>	Normal: 0.4-4.5mIU/L
	Hypothyroid: >4.55mIU/L

## The Problem with Solely Relying on the TSH Lab Test to Diagnose Hypothyroidism

Many patients (about 40% according to Dr. Barnes) will remain undiagnosed if the TSH test is the only means of diagnosing hypothyroidism. According to Goodman & Gilman 12<sup>th</sup> edition, the thyroid gland naturally releases T4 and T3 in an 11:1 ratio. In the body the majority of the T4 hormone is converted to T3, which is the more active hormone. By only relying on the TSH, the patients who may not adequately convert T4 into T3 may fall into the normal TSH range and yet still present with signs and symptoms of hypothyroidism.

Factors that Cause Inability to Convert T4 to T3		
<b>Nutrient Deficiencies</b>	<b>Medications</b>	<b>Other</b>
Chromium	Beta Blockers	Aging
Copper	Birth Control Pills	Alcohol
Iodine	Estrogen	Lipoic Acid
Iron	Iodinated contrast agents	Diabetes
Selenium	Lithium	Fluoride
Zinc	Phenytoin	Lead
Vitamin A	Steroids	Mercury
Vitamin B2	Theophylline	Obesity
Vitamin B6		Pesticides
Vitamin B12	<b>Diet</b>	Radiation
	Cruciferous vegetables	Stress
	Soy	Surgery



## The Holistic Approach of Diagnosing Hypothyroidism

- 1) Evaluate Signs and Symptoms of Hypothyroidism
- 2) Measure Basal Body Temperature
- 3) Thyroid Blood Tests: TSH, free T4 AND free T3 and once if normal TPO  
And when testing wait 15 minutes quietly in the lab before the blood draw and if taking T3 test in 4 hours

## Signs and Symptoms of Hypothyroidism

<ul style="list-style-type: none"> <li>• Brittle nails</li> <li>• Cold hands and feet</li> <li>• Cold intolerance</li> <li>• Constipation</li> <li>• Depression</li> <li>• Difficulty swallowing</li> <li>• Dry skin</li> <li>• Elevated Cholesterol</li> <li>• Essential Hypertension</li> <li>• Eyelid Swelling</li> <li>• Fatigue</li> <li>• Hair loss</li> <li>• Hoarseness</li> </ul>	<ul style="list-style-type: none"> <li>• Hypotension</li> <li>• Inability to concentrate</li> <li>• Infertility</li> <li>• Irritability</li> <li>• Menstrual irregularities</li> <li>• Muscle Cramps</li> <li>• Muscle Weakness</li> <li>• Nervousness</li> <li>• Poor memory</li> <li>• Puffy eyes</li> <li>• Slower heartbeat</li> <li>• Throat pain</li> <li>• Weight gain</li> </ul>
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## How to Measure Basal Body Temperature

- Put a thermometer under your armpit for ten minutes and record your temperature 5 days in a row. Do not get out of bed before checking your temperature or you will have an altered reading.
- For women who are menstruating: Take the temperature on the second day of your menstruation for this is the best time to get an accurate basal temperature reading.
- Your temperature should be in the normal range of **97.8-98.2°F**. If your temperature is below this range, it may indicate hypothyroidism.

## Thyroid Replacement Treatment Options

T4	T4 and T3 combination	T3	Compounded preparations
Levothyroid Levoxyl Synthroid Unithroid	Armour Thyroid Nature-Throid Westhroid Thyrolar	Cytomel Liothyronine Sodium	Slow-release T3 hormone

## Other Hormones to Balance

- o DHEA
- o Hydrocortisone
- o Testosterone
- o Progesterone
- o Estrogen
- o Human Growth Hormone
- o Pregnenolone

Commercial thyroid replacement combination products are made in a T4 to T3 ratio of 4:1. By utilizing compounding pharmacists, a more natural ratio can be achieved. This would include 11 parts of T4 hormone to 1 part slow-release T3 hormone, which would be dosed every 12 hours. This will reduce peaks in hormone levels in the body and maintain consistency.

## Co-existing conditions often associated with hypothyroidism:

- 1) Fibromyalgia: muscle aches, pain, and fatigue
- 2) Chronic Fatigue and Immune Dysfunction Syndrome (CFIDS)

## Hyperthyroidism

### Signs and Symptoms

<ul style="list-style-type: none"> <li>• Fatigue</li> <li>• Goiter</li> <li>• Heat intolerance</li> <li>• Hypertension</li> <li>• Menstrual Disturbance</li> </ul>	<ul style="list-style-type: none"> <li>• Nervousness</li> <li>• Palpitations</li> <li>• Sweating</li> <li>• Tremor</li> <li>• Weakness</li> <li>• Weight loss</li> </ul>
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## Autoimmune Conditions

<u>Graves' Disease</u>	A hyperthyroid condition: symptoms include hyperthyroid symptoms as well as protruding eyes and abnormal nerve sensations such as tingling or buzzing in extremities.
<u>Hashimoto's Disease</u>	An inflammatory condition of the thyroid gland, which initially presents as hyperthyroidism, but over time will present as a hypothyroid condition.

## Other Points to Consider

- 1) Eating a balanced healthy diet
- 2) Clearing the body of metal toxins
- 3) Correcting iodine deficiency
- 4) Wheat (gluten) sensitivity

**Reference:** Brownstein D. Overcoming Thyroid Disorders 2<sup>nd</sup> Edition. Westbloomfield, Michigan. Medical Alternative Press; 2008. Davis W. Wheat Belly. New York, New York. Rodale Inc. 2011.  
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