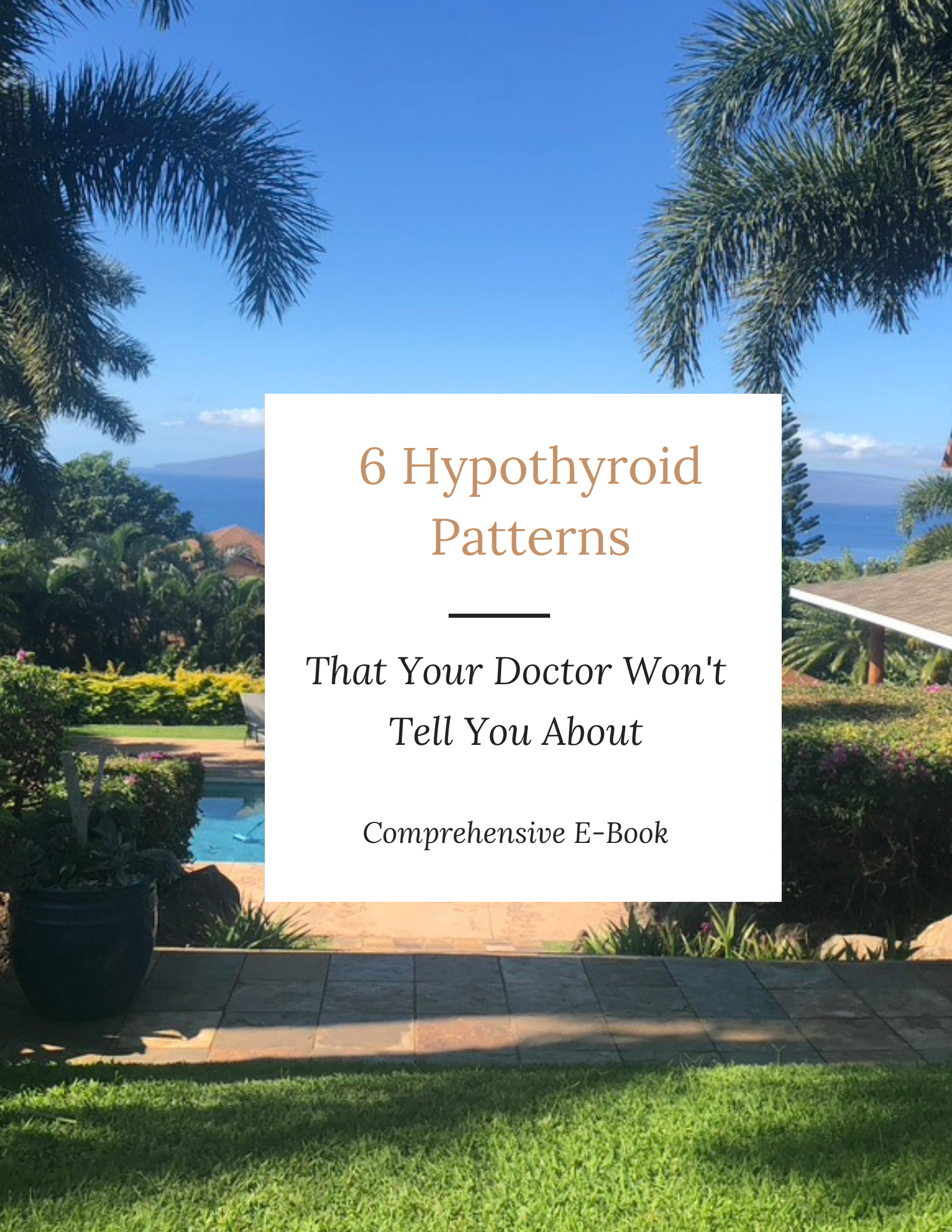

6 Hypothyroid Patterns

That Your Doctor Won't Tell You About

Comprehensive E-Book

Thyroid Awareness

GETTING TO KNOW THE THYROID

We are in the midst of facing the biggest epidemic of chronic disease in human history. The chronic disease burden of 75% today was just 4% in the 1960's.

When it comes to thyroid health, take a look at these numbers:

- An estimated 20 million Americans have some form of thyroid disease. Up to 60% of these people are unaware of their condition.
- One in eight women will develop a thyroid disorder during her lifetime.
- Levothyroxine, a synthetic form of thyroid hormone, is the 4th highest selling drug in the U.S. 13 of the top 50 selling drugs are either directly or indirectly related to hypothyroidism.
- The number of people suffering from thyroid disorders continues to rise each year.

HYPOTHYROIDISM

Hypothyroidism is one of the most common thyroid disorders. It is characterized by mental slowing, depression, dementia, weight gain, constipation, dry skin, hair loss, cold intolerance, hoarse voice, irregular menstruation, infertility, muscle stiffness and pain, and a wide range of other not-so-fun symptoms.

THE THYROID - OUR CENTRAL GEAR

In fact, every cell in the body has receptors for thyroid hormone. These hormones are responsible for the most basic aspects of body function, impacting all major systems of the body. Thyroid hormone directly acts on the brain, the G.I. tract, the cardiovascular system, bone metabolism, red blood cell metabolism, gall bladder and liver function, steroid hormone production, glucose metabolism, lipid and cholesterol metabolism, protein metabolism and body temperature regulation. For starters.

You can think of the thyroid as the central gear in a sophisticated engine. If that gear breaks, the entire engine goes down with it.

THE PROBLEM WITH STANDARD LAB TESTS

In medicine, choosing treatment comes from making a diagnosis. If the diagnosis isn't correct, the treatment will be ineffective – or even cause harm.

A standard thyroid panel usually includes TSH and T4 only. The ranges for these markers vary from lab to lab, which is one of two main problems with standard lab ranges. The ranges are also wide and large...assuming health if you fall within them. Unfortunately misdiagnosis is common in the management of hypothyroidism.

Even worse, if you have hypothyroid symptoms but your lab tests are normal, you'll be told you're "fine".

What follows is a summary of six hypothyroid patterns that won't be flagged on a standard lab test. If you have one of these patterns, your thyroid isn't working properly and there are specific targeted interventions that can (and should) be applied.

The intention is this eGuide is to give you a high level overview of how to screen and assess your thyroid panel. The first step is to request a full thyroid panel, review the functional ranges, and identify if your markers correspond to one of these patterns.

The good news is that, once a correct assessment as been made, patients respond well to treatment.

6 Hypothyroid Patterns

FUNCTIONAL THYROID RANGES / 4

Pattern # 1

HYPOTHYROIDISM
SECONDARY TO PITUITARY HYPOFUNCTION / 7

Pattern # 2

HYPOTHYROIDISM / 12
DUE TO THYROID UNDER-CONVERSION OF T4 TO T3

Pattern # 3

HYPOTHYROIDISM / 16
CAUSED BY ELEVATED THYROID BINDING GLOBULIN

Pattern # 4

HYPOTHYROIDISM / 22
CAUSED BY DECREASED THYROID BINDING GLOBULIN

Pattern # 5

HYPOTHYROIDISM / 27
CAUSED BY THYROID HORMONE RESISTANCE

Pattern # 6 / 27

AUTOIMMUNE THYROID

Full Thyroid Panel & Functional Ranges

FUNCTIONAL	RANGE	RESULTS	COMMENTS
TSH	1.8 - 3.0 mIU/L		
Total Thyroxine (TT4)	6-12 ug/d		
Total Triiodothyronine (TT3)	100-180 ng/dL		
Free T4	1.0-1.5 ng/dL		
Free Thyroxine Index	1.2-4.9 mg/dl		
Free T3	2.0-3.0 pg/mL		
T3 Uptake	28-38 md/dl		
Reverse T3	90-350 pg/ml		
Thyroid Binding Globulin	18-27 ug/dl		
Thyroid Perioxidase Antibody	**Above Lab Range**		
Antithyroglobulin Antibody	**Above Lab Range**		

METABOLIC ASSESSMENT

Category 1: Low Thyroid Symptoms

This category screens for symptoms associated with low thyroid function

Category 1

Tired/Sluggish	0	1	2	3
Feel cold - hands, feet, all over	0	1	2	3
Require excessive amounts of sleep to fx	0	1	2	3
Increase in weight even on low calories	0	1	2	3
Gain weight easily	0	1	2	3
infrequent bowel movements	0	1	2	3
Depression/lack of motivation	0	1	2	3
Thinning of hair on scalp, face...hair loss	0	1	2	3

Category 2: Hyper Thyroid Symptoms

Please note that patients with autoimmune conditions many experience hyperthyroid symptoms. During times of an immune attack on the thyroid, it is common for the thyroid to over-release thyroid hormones causing hyperthyroid type symptoms.

Category 2

Heart palpitations	0	1	2	3
Inward trembling	0	1	2	3
Increased pulse even at rest	0	1	2	3
Nervous and Emotional	0	1	2	3
Insomnia	0	1	2	3
Night sweats	0	1	2	3

PATTERN # 1

HYPOTHYROIDISM SECONDARY TO PITUITARY HYPOFUNCTION

Typical Cause

Chronic stress and/or elevated cortisol from an active infection, blood sugar disorders, unrelenting stress.

Important Considerations:

Elevated levels of cortisol (stress) fatigue the brain and suppress pituitary function. There may be nothing wrong the thyroid gland itself. The pituitary is simply "asleep" and not sending the signal.

Therapeutic Approach

Balance blood sugar, check for infections, eliminate stressors, control inflammation

Thyroid Hormone Markers

TSH will be below functional range (1.8-3.0)
T4 will fall below 6

Other Relevant Diagnostic Tests

Adrenal Health Profile (saliva)
Other Blood Biomarkers:
-Fasting Glucose, Insulin, HgbA1c, hs-CRP, Triglycerides

PATTERN # 2

HYPOTHYROIDISM CAUSED BY UNDER-CONVERSION OF T4 TO T3

Typical Cause

Gut dysfunciton, inflammation and elevated cortisol levels. T4 to T3 happens in cell membranes. Inflammation & cortisol damage cell membranes and impairs conversion.

Thyroid Hormone Markers

Total T3 and Free T3 will be low

Important Considerations:

T4 is the inactive form of thyroid hormone. It must be converted to T3 before the body can use it. More than 90% of thyroid hormone produced is T4.

Other Relevant Diagnostic Tests

Functional Stool Analysis
Other Blood Biomarkers:
-hs-CRP, Homocysteine

Therapeutic Approach:

Clean Gut, Clear Liver

PATTERN # 3

HYPOTHYROIDISM CAUSED BY HIGH THYROID BINDING GLOBULIN

Typical Cause

Gut dysfunciton, inflammation and elevated cortisol levels. T4 to T3 happens in cell membranes. Inflammation & cortisol damage cell membranes and impairs conversion.

Thyroid Hormone Markers

TBG will be high

T3 and T3 Uptake will be low

Important Considerations:

Thyroid biding globulin (TBG) is the protein that transports thyroid hormone through the blood. When thyroid hormone is bound to TBG, it is inactive and unavailable to the tissues. When TBG levels are high, levels of unbound (free) thyroid hormone will be low, leading to hypothyroid symptoms

Other Relevant Diagnostic Tests

Hormone Panel

Therapeutic Approach:

Clear excess estrogen from the body

PATTERN # 4

HYPOTHYROIDISM CAUSED BY LOW THYROID BINDING GLOBULIN

Typical Cause

Excess testosterone - typically caused by metabolic syndrome (insulin resistance) or testosterone hormone replacement

Important Considerations:

This is the direct opposite of the pattern above. When TBG levels are low, levels of free thyroid hormone will be high. You might think this would cause hyperthyroid symptoms. But too much free thyroid hormone in the bloodstream causes the cells to develop resistance to it. So, even though there's more than enough thyroid hormone, the cells can't use it and you'll have hypothyroid – not hyperthyroid – symptoms.

Therapeutic Approach:

Reversing insulin resistance, PCOS, and restoring blood sugar health. In women, high testosterone is commonly associated with PCOS (Polycystic ovarian syndrome)

Thyroid Hormone Markers

TBG will be low

T3 and T3 Uptake will be high

Other Relevant Diagnostic Tests

Blood sugar & inflammation markers:

Glucose, Insulin, HgbA1c, hs-CRP, Triglycerides

PATTERN # 5

HYPOTHYROIDISM CAUSED BY THYROID RESISTANCE

Typical Cause

Stress (cortisol), inflammation, poor blood sugar control

Important Considerations:

In this pattern, both the thyroid and pituitary glands are functioning normally, but the hormones aren't getting into the cells where they're needed. This causes hypothyroid symptoms.

Therapeutic Approach:

Sensitizing hormone receptors through increasing carbohydrate tolerance, exercise, and good, healthy fats.

Thyroid Hormone Markers

Note that all lab test markers will be normal in this pattern, because we don't have a way to test the function of cellular receptors directly.

Other Relevant Diagnostic Tests

Blood sugar & inflammation markers:
Glucose, Insulin, HgbA1c, hs-CRP, Triglycerides

PATTERN # 6

AUTOIMMUNE HYPOTHYROIDISM (HASHIMOTO'S)

Typical Cause

Immune system recognizes & flags the thyroid as a threat – develops memory cells (antibodies) to signal immune cells to destroy thyroid tissue

Important Considerations:

Most cases of hypothyroidism is not do to a thyroid gland failure but is is caused by an autoimmune disease. Studies show that 90% of people with hypothyroidism are producing antibodies to thyroid tissue. This causes the immune system to attack and destroy the thyroid, which over time causes a decline in thyroid hormone levels.

Therapeutic Approach:

Identify and remove as many dietary and environmental immune triggers

Thyroid Hormone Markers

Positive Antibodies to TPO (Thyroid Perixodase) or TBG (Thyroid Binding Globulins).

Other Relevant Diagnostic Tests

Cyrex Autoimmune Reactivity Screen
Intestinal Permeability Screen
Microbiome Labs
Cross-Reactivity Labs

VERY IMPORTANT DISTINCTION

Most cases of hypothyroidism in the US are not do to a thyroid gland failure but due to an underlying autoimmune condition. In fact, studies show that 90% of people with hypothyroidism are producing antibodies to thyroid tissue. This causes the immune system to attack and destroy the thyroid, which over time causes a decline in thyroid hormone levels.

Most doctors know hypothyroidism is an autoimmune disease. But most patients don't. The reason doctors don't tell their patients is simple: it doesn't affect their treatment plan. Regardless of whether the root cause of your thyroid condition is a failure of the gland or an autoimmune attack, the protocol remains the same - thyroid hormone replacement.

The obvious problem with this strategy is that it doesn't address the underlying cause of a dysfunctional immune system. If the underlying issue isn't addressed, hormone replacement isn't going to work very well - or for very long.

Armed with this information, you are now better equipped to discuss your options with your own doctor or practitioner!