DR

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• The *Future* of Natural Healthcare •

•*Heal Your Hormones*•

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Hormonal problems can be a lifelong struggle for millions of people. Chronic health problems like weight gain, skin conditions, infertility, fatigue, brain fog, depression, and anxiety wreck millions of lives. Crash and fad diets, or trying the next magic product can go on for years with little or no success. The inability to overcome hormonal problems can be deflating and discouraging with no end in sight.

Conventional wisdom and society say that it's just a matter of taking a medication or "calories in, calories out," that if you just restrict the food you eat and eat like a rabbit, it will solve your problems. The reality is that, for many people, a sustainable health solution is just not that simple.

Hormonal problems are multifaceted and complex, with no simple "quick fix" solution. In Functional Medicine, it's my goal to investigate the underlying reasons of why people suffer from chronic issues like hormonal problems. Your body is interconnected by an intelligent web of communication lines, so hormonal problems, like any other process, is affected by a variety of factors across your entire system.

So, let's go on a journey. This is a step-by-step Functional Medicine Guide to healing your hormones. Let's go beyond just diagnosing a disease and matching it with a corresponding drug. The medicinal matching game fails many looking for sustainable results.

ADRENALS

‘’Adrenal Fatigue" is a term that you hear a lot in the health community, but what is it exactly? Let's learn about the causes of adrenal fatigue, how it can impact how you feel, and what you can do about it!

Your adrenal glands sit on top of your kidneys and regulate many critical hormonal jobs in your body. One of those jobs is the secretion of your body's main stress hormone, cortisol. Our bodies have been designed for stressful events, and throughout time they have adapted to them. If our ancestors were chased by a predator, the sympathetic response, our body's fight-or-flight mode, would be activated. During this stress response, cortisol would be released, up-regulating blood pressure and blood sugar, which were needed for the stressful event. When things calm down, cortisol secretion decreases, along with your blood pressure and blood sugar levels. Normal balance is intact.

Our modern life, with its many chronic stressors, can turn on your stress response and throw away the key. Unlike acute stress, for which we're biologically hard-wired, chronic stress turns on the fight-or-flight response, without any rest. If the chronic stress response doesn't leave, those cortisol triggers never stop. But we haven't genetically adapted to the onslaught of modern chronic stressors. Balance is not intact. Some chronic stressors that can lead to adrenal fatigue are:

- excessive exercise
- toxins
- emotional stress
- autoimmune conditions
- food intolerances
- chronic gut infection

These stressors can cause cortisol to remain high for a long time. Chronically high cortisol levels can tire your poor adrenal glands out — welcome to adrenal fatigue. Because of the adrenal glands' important role in your health, adrenal fatigue can cause a wide variety of symptoms, such as:

- trouble falling asleep or staying asleep
- irritability
- fatigue
- blood sugar fluctuations
- changes in blood pressure
- weakened immune system
- digestive issues
- brain fog
- dizziness
- increased allergies
- asthma
- weight fluctuations
- depression
- decreased sex drive

In functional medicine, instead of just treating symptoms, my main focus is to address the underlying biochemical mechanisms that are at play. The secret to understanding adrenal fatigue is understanding its origin: your brain!

Your brain tells your adrenal glands what to do through a complex web of communication called the hypothalamic-pituitary-adrenal axis (HPA Axis).

Your hypothalamus releases corticotropin-releasing hormone (CRH), which tells the pituitary gland to release the adrenocorticotropic hormone (ACTH). ACTH then tells your adrenal cortex to release cortisol. Adrenal fatigue is really a dysfunction of your brain's communication with your adrenals (HPA axis), not the adrenal gland itself!

Given modern medicine's model of labeling a disease and matching it with a corresponding pharmaceutical drug, it's no wonder why I see many people struggling with adrenal fatigue and they don't even know it.

Adrenal fatigue is nuanced and multifaceted and is drastically under diagnosed. There are three main stages of adrenal fatigue: The first stage is marked with high cortisol. The second stage you can see normal cortisol levels, which makes it difficult to detect. The third phase of adrenal fatigue is where we have low cortisol.

GUT, BRAIN, AND LEPTIN

The gut is home to trillions of bacteria, collectively known as the microbiome. Your body is comprised of 15 trillion human cells, and about 90 trillion bacterial cells. The bacteria in our bodies contain at least 150 times more genes, collectively, than our human genome — you could say you are more bacteria than you are human!

Our Western diet, filled with refined grains, sugar, bad fats (such as canola, vegetable, corn, and soybean oil), and environmental toxins, can cause inflammation in the gut, which can lead to leaky gut syndrome. This increased gut permeability allows endotoxins from bacteria to escape the protective gut lining and circulate through the body, causing systemic inflammation. This systemic inflammation can affect the hypothalamic cells of your brain — known as leaky brain syndrome — which can lead to leptin resistance. Leptin, a hormone produced by fat cells, is supposed to tell your brain to burn fat for energy and to tell your body when it is full. With leptin resistance, the brain doesn't get the message.

Welcome to weight loss resistance. A struggle with weight loss can be an issue from childhood for some people. C-section births or antibiotic use, while sometimes necessary, come with a cost of a disadvantaged microbiome. From the moment we are born through the birth canal, we acquire beneficial bacteria. Throughout time our gut has depended on our environment — our food, animals, being outside — to provide the diverse healthy bacteria that keep us healthy and at our optimal weight. Our sanitized life came with a price tag of chronic disease and obesity.

THYROID

It is estimated that more than 20 million Americans suffer from low thyroid problems or hypothyroidism. One in eight women will develop a thyroid disorder during her lifetime. Weight loss resistance, fatigue, brain fog, irritability, depression, hair loss, and brittle nails have all been linked to low thyroid function.

If you have these symptoms, you can go to your primary care physician or endocrinologist and have tests run. Typically, they'll run TSH (thyroid-stimulating hormone) and T4 Tests. If your TSH is high, you'll be given a thyroid replacement hormone drug. In my experience, thyroid replacement hormones do very little to sustainably relieve symptoms in most cases, let alone the condition. This leaves many of those suffering with these symptoms left to fend for themselves. As with any chronic disease, the training in the mainstream system is to diagnose a disease and match it with a corresponding drug. So, if your TSH lab is "normal," you're told you're "normal," even if you still have symptoms.

The standard model of care for people struggling with low thyroid symptoms is incomplete and inadequate. In functional medicine, we look at a much narrower range that shows ultimate health and function. This detailed lab interpretation gives answers to millions of people in the "gray area": people who have symptoms but are considered "normal" in the eyes of mainstream care.
There are six patterns of hypothyroidism that won't show up on conventional lab tests and are not effectively helped by thyroid replacement hormones:

1. HASHIMOTO'S DISEASE
Some research estimates that up to 90% of all thyroid cases are Hashimoto's or autoimmune thyroiditis. In this case, the thyroid isn't the true culprit, but is the victim of the immune system. TSH can be normal, but until you deal with the underlying autoimmune response, you'll always struggle with low thyroid symptoms.

2. THYROID RESISTANCE
Similar to insulin resistance, thyroid resistance is caused by cellular inflammation, which decreases hormone communication with the cell membrane. Thyroid hormone production isn't the problem in this pattern, and TSH will be normal but the person will have symptoms. Labs such as homocysteine and reverse T3 will give us a look at the inflammation and hormone receptor site blunting that is seen with this pattern.

3. THYROID UNDER-CONVERSION
This pattern has been covered in medical literature for years, but is not effectively alleviated by thyroid replacement hormones. The majority of thyroid hormone is in the form of T4, which is metabolically inactive, and has to be converted to T3 for use in the body. Most thyroid drugs are synthetic T4, which isn't deficient in this pattern. It's the conversion of the hormone, which takes place in the liver and GI system, that's the problem. This pattern is common with chronic adrenal stress and elevated cortisol levels in the body.

4. THYROID OVER-CONVERSION
You would think that if the body produces more T3, the metabolically active form of thyroid hormone, it would be a good thing. Too much of a good thing will overwhelm your cells and cause a resistance pattern. This thyroid pattern is seen in people with elevated testosterone levels, insulin resistance, type II diabetes, and in women with PCOS (Polycystic Ovarian Syndrome).

5. THYROID BINDING GLOBULIN ELEVATION

Thyroid hormones, as with all hormones, get transported throughout the body on protein carriers. When these protein carriers, thyroid-binding globulins (TBG), are elevated this will cause an increase of protein bound thyroid hormones which are inactive. This pattern is common with excess estrogen levels and women using birth control pills or estrogen creams.

6. HYPOTHYROIDISM SECONDARY TO PITUITARY HYPOFUNCTION

In this pattern the pituitary gland, which sits at the base of your brain, isn't communicating with your thyroid gland. There's nothing wrong with the thyroid itself, it's just not being told to get to work! This pattern is associated with chronic stress levels or chronic bacterial and viral infections.

AUTOIMMUNITY: THE LEADING CAUSE OF LOW THYROID SYMPTOMS

Autoimmune conditions have exploded to epidemic proportions over the last few decades, affecting an estimated 50 million Americans. To put that in perspective, there are around 14 million living Americans who have been diagnosed with cancer at some point in their lives. What was once a rarity is now commonplace.

Autoimmune conditions are showing no signs of stopping. People with one autoimmune condition are also at a greater risk of acquiring another. I see many people with what's called poly-autoimmunity, which means they have multiple autoimmune conditions at the same time.

Ninety percent of all hypothyroid cases in the United States are autoimmune in nature. Thyroid autoimmune diseases are the most common, affecting 7-8 percent of the population. Whether or not you have primary hypothyroidism, a thyroid hormone conversion dysfunction, or an autoimmune disease, a thyroid hormone replacement drug is the only option given in the mainstream model of care. The problem with Hashimoto's Disease is that the thyroid isn't the actual source of the problem. The thyroid is the victim of the immune system.

Hashimoto's disease, or autoimmune thyroiditis, isn't a new discovery. First mentioned in clinical literature in 1912, it was actually the first disease to be labeled as autoimmune. Your immune system is an intricate, sophisticated network that protects your body against potentially harmful viruses and bacteria. When your immune system mistakes your body as a harmful pathogen and attacks it, this is classified as an autoimmune response.

Hashimoto's can be diagnosed by running thyroid peroxidase antibodies (TPO Ab) and thyroglobulin antibodies (TGB Ab) tests. These tests aren't commonly administered because the treatment would be the same whether you have Hashimoto's or true primary hypothyroidism: thyroid hormone replacement drugs. Because the autoimmune response can go through active and dormant states, there is a chance for a false negative, which is why a comprehensive health history is essential.

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WHY YOUR THYROID MEDICATION IS NOT WORKING FOR YOU

Let's go over some reasons why your thyroid medication may not be working.

1. DECREASED THYROID RECEPTOR SENSITIVITY.

Every cell of your body is lined with a membrane that's made up of saturated fat and cholesterol, called a bi-lipid membrane. This membrane is essential for your health. Receptor sites on the membrane act as communicators with hormones. Cellular inflammation can cause a rigidity of the cell membrane and a "dulling," or resistance, of the receptor sites. Your body may be producing enough thyroid hormone or you may be on the right dose of thyroid hormone drug, but if your cells aren't communicating with the hormone, your symptoms will persist.

2. DECREASED THYROID HORMONE CONVERSION.

Inflammation will decrease the conversion of the inactive thyroid hormone, T4, to the biologically active and usable form, T3. This hormone conversion happens primarily in the liver and your gut. Your body's systems are intelligently complex; dealing with the interconnected systems of your body is essential for your thyroid hormones to work properly.

3. HIGH REVERSE T3 LEVELS.

When your body is under chronic stress it can produce higher levels of reverse T3, which is an inactive form of the thyroid hormone. Reverse T3 can't be converted into T3, which means this is another situation when the problem isn't a deficiency in thyroid hormone, but a conversion problem caused by chronic stress and inflammation.

4. DECREASED BRAIN-THYROID COMMUNICATION.

Your thyroid doesn't act on its own, but receives information from your brain, specifically the hypothalamus and pituitary gland. Think of your thyroid as an employee of the brain, only doing what the brain tells it to do. This interconnected web of communication is called the hypothalamic-pituitary-thyroid (HPT) axis. Chronic stress, autoimmune responses, and inflammation can negatively impact these communication lines.

STEP 1 - KNOW YOUR GUT, BRAIN AND IMMUNE HEALTH

In the mainstream medical system, if someone is struggling with one of these issues, they're typically left to pick between pharmaceutical A or B. For many, medications like antidepressants or anti-anxiety medications provide only temporary or marginal relief from their suffering. For others, they live in a constant state of medicated numbness. If medications don't provide sustainable solutions for you, or if you feel like they are not addressing the root cause of why you feel the way you do, this is for you. I want to share with you the underlying commonality between most of the people I see suffering with these mental health concerns: Inflammation.

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We hear the term "inflammation" a lot when dealing with chronic health conditions. What is inflammation exactly, and how can it cause problems with your brain? Inflammation is normally a healthy response. For example, when you hurt your knee, acute inflammation enables your body to repair itself. Chronic inflammation, on the other hand, is inflammation with no end in sight. Like a fire that's fueled with endless gasoline, chronic inflammation doesn't heal — it destroys. Chronic, low-grade, systemic inflammation has been directly implicated in just about every chronic disease; brain conditions are no exception. Unlike other organs, your brain has no pain fibers. Chronic inflammation of the brain can manifest as problems like brain fog, depression, or fatigue.

A growing field of study referred to as the cytokine model of cognitive function, attempts to explain how inflammation affects how your brain works. Cytokines are proteins that regulate your body's immune response. Wherever there's inflammation there are pro-inflammatory cytokines. There are many different ways in which your brain can become inflamed, both directly and indirectly. One of the main inflammatory mechanisms I come across doesn't even necessarily have to start directly in your brain, but actually can originate in your "second brain:" your gut.

Just like your brain, the inner mucosal lining of your gut has no pain fibers. 95% of your body's serotonin, your "feel-good" hormone, is made in your intestines and it has many of the same neurological features as your brain. I've written previously about how your gut-brain axis can cause weight loss resistance; it's also at the center of the cytokine model of mental health.

Another key player is zonulin, a protein that's released during inflammatory gut conditions like leaky gut syndrome, small intestinal bacterial overgrowth, or a chronic yeast or parasite infection. One of zonulin's jobs is to open up your intestinal tight junctions, which are typically closed to protect your gut's delicate environment. Zonulin and certain bacterial endotoxins called lipopolysaccharides (LPS), which are normally isolated to your gut, can be released from your gastrointestinal system and circulate throughout your body, causing systemic inflammation. Just as zonulin opens your protective gut lining, it has also been shown to open your protective blood-brain barrier. The leaky gut has now caused a leaky brain.

When your brain's protective barrier is breached it can activate the glial cells, your brain's immune cells. More than half the weight of your brain is made up of these immune cells. Once these "immune soldier" glial cells are activated it can turn on an inflammatory response in your brain, and they don't have an off switch. This chronic inflammation can decrease neuron firing and can be linked to just about any problem of the brain. In return, altered brain output then can also decrease its communication with your gut, impairing its function, causing a vicious, perpetual cycle of inflammation. This inflammation can also impact your brain's communication with the endocrine (hormone) system such as the thyroid (HPT axis) and adrenal glands (HPA axis).

STEP 2 - KNOW YOUR HORMONE HEALTH

THYROID LABS

Hypothyroidism, or low thyroid function, is one of the most common underlying chronic hormonal problem in the world. With around 20 million cases in America alone and 200 million people worldwide, hypothyroidism is a silent epidemic. What's worse is that around half of those struggling with this health problem, are undiagnosed, not knowing why they feel the way they do.

Living with unexplained weight gain, fatigue, hair loss, brain fog, depression, anxiety, or digestive problems can be debilitating and leave you feeling hopeless. if your thyroid is not working well, nothing in your body is working well. Many people will go to their doctor to have labs run, suspecting it may be their thyroid. If your Thyroid Stimulating Hormone or TSH is out of the lab range, you are given Synthroid or Levothyroxine. If the labs are "normal", you are typically sent home, with no options left in mainstream medicine.

HOW DO WE GET THE "NORMAL" LAB RANGES?

If you still have low thyroid symptoms and your TSH is "normal", something is not being addressed. How do we get the lab "normal" range anyways? The reference range is based on a bell curve, statistical average of the population of that lab. This is why, other than vitamin D and cholesterol levels, lab reference ranges will vary depending on the lab.

The people who typically go to labs and make up that average are statistically not the healthiest. So, if your labs are "normal" despite having symptoms, what your doctor is essentially saying is your just like a lot of other sick people.

In functional medicine, we look at a much thinner range, the functional range, where your body is functioning optimally and you feel great, in perfect health.

A FUNCTIONAL MEDICINE GUIDE TO UNDERSTANDING YOUR THYROID LABS

A functional medicine look at your thyroid is more in depth than just a TSH and a T4. Here are some of the labs that I run on my patients, what they actually mean and where you want them to be:

TSH

The Thyroid Stimulating Hormone is released from your pituitary gland to communicate with your thyroid. If your TSH is high it is sort of like your brain shouting at your thyroid to work more. Research has linked a lab "normal" TSH of 2.5-3.5 mIU/mL with a 69% risk of dying from a heart attack or stroke! Now you can see why the optimal "functional" range is so important for your health, not just looking for labs out of the larger reference range!
Lab Range: .45-5.5 mIU/L
Optimal Range: 1.8-2.5 mIU/L

TOTAL T4

T4 is mostly metabolically inactive in the body and has to be converted to T3 to be usable. This lab gives you a total of unbound and bound forms of T4. Hormones have to be unbound from the protein carrier to be used by your body. Because of this, this lab doesn't give us the activity of T4 when measured alone. T4 is best ran in conjunction with a T3 uptake.
Lab Range: 4.5-12 mg/dL
Optimal Range: 6.0-12.0 mg/dL

T3 UPTAKE

This lab is not directly looking at T3 but is very useful at indirectly looking at other hormones such as estrogen or testosterone and their relation with the binding of thyroid hormones. It can be affected by sources of estrogen such as birth control pills and estrogen creams and by sources of testosterone.
Reference Range: 22-35 %
Optimal Range:28%-38%

TOTAL T3

This lab shows us the total amount of the metabolically active thyroid hormone. It allows us to check your body's ability to convert T4 to T3 and to rule out an overactive thyroid.
Lab Range: 80 -200 ng/dL
Optimal Range:100-180 ng/dL

FREE T4

This will tell you the levels of the free or active form of T4. This will be low in cases of hypothyroidism but can be normal in subclinical, early stages of thyroid dysfunction.
Lab Range: 0.8 - 1.8 ng/L
Optimal Range:1.0-1.5 ng/dL

FREE T3

This is the more active, usable form of your thyroid hormone. Low T3 syndromes are a common dysfunction that I see in practice and it is strongly linked to a higher risk of heart attack. The problem with that is if you are taking a synthetic T4 medication but the actual problem is that your body is not converting the hormone properly into T3.
Lab Range: 2.3- 4.2 pg/mL
Optimal Range:3.0-4.0 pg/mL

REVERSE T3

Chronic stress and high cortisol can raise levels of reverse T3 which is an unusable form of the thyroid hormone.
Reference Range: 8-25 ng/dL
Optimal Range: 8-23 ng/dL

THYROID ANTIBODIES

High levels of thyroid antibodies show an autoimmune attack against the thyroid. The overwhelming majority of low thyroid cases are on the autoimmune spectrum, the most common being Hashimoto's Disease. Learn more about autoimmune conditions here.
Thyroid Peroxidase (TPO) Ab Optimal Range: 0-15 IU/mL
Thyroglobulin Ab Optimal Range: 0-0.9 IU/mL

Additional labs to address your microbiome, immune system and other hormones should also be considered.

STEP 3 - KNOW YOUR FOOD INTOLERANCES

Many of my patients instinctively know that they have some undiagnosed food intolerance, but have no way of knowing for sure. Comprehensive Food Intolerance labs will give you insight on this piece of the puzzle. Here are some of the labs I run on my patients:

GLUTEN

This is one lab we run to look at all the different aspects of gluten intolerance. Often times people will go to their doctor and have gliadin tested but nothing else, giving many an incomplete view of a potential gluten intolerance.

CROSS REACTIVE FOODS

This is a lab to assess multiple cross-reactive foods. This test can help people who have cleaned up their diet but have symptoms.

STEP 4 - CHECK FOR ANY NUTRIENT DEFICIENCIES

SELENIUM

Selenium is an essential micronutrient for your health. It plays an important role in thyroid hormone conversion and overall function. Although deficiency of selenium is rare in adults, it's sometimes seen in patients with inflammatory triggers, such as gastrointestinal disease. Selenium is found in nuts, meats, fish and eggs.

VITAMIN D

This nutrient is responsible for hundreds of different genetic pathways in the body. Vitamin D deficiencies are linked to chronic disease and poor hormone health and optimal levels are linked to an actual preservation of our telomeres, the part of your chromosomes that maintain our youth! Vitamin D should be paired with other fat-soluble vitamins, like vitamin A and K2.

STEP 5 - CHECK FOR TOXINS

One major underlying factor that isn't being addressed in the standard model of care is toxins. Whether they're synthetic or natural in nature, toxins are a piece of the complex thyroid puzzle. Here are 11 offenders that may be affecting your thyroid function:

1. PERCHLORATES

Almost all of us have perchlorates in our bodies, according to the CDC. Perchlorate is a byproduct of the manufacturing of rocket and jet fuel, car air bags, and reworks. This toxin leaks into much of our drinking water and food supply. The CDC study found widespread perchlorate human exposure, and a connection between perchlorate levels and thyroid hormone levels. Perchlorate prevents the production of thyroid hormone, which can lead to low thyroid symptoms. One study found babies born with elevated levels of thyroid-stimulating hormone may have been affected by small amounts of perchlorate in their mother's drinking water. These studies, and the work of the Environmental Working Group, show that not only is perchlorate exposure pervasive, but that even low levels of perchlorate exposure can have negative health effects on the thyroid.

2. PCBS

Polychlorinated biphenyls (PCBs) are industrial chemicals that were banned in the 1970s but are still detected in our environment today. PCBs have been shown to increase thyroid dysfunction, and by increasing the level of thyroid-stimulating hormone, can make your body resistant to the thyroid hormone, similar to the insulin resistance seen in type II diabetes. They also can affect the liver enzymes that regulate the conversion of your thyroid hormone so it can be available to use in your body.

3. DIOXINS

Both PCBs and dioxins are known to have disruptive effects on the endocrine system, and a dioxin is the primary toxic component of Agent Orange. I have seen many patients who served in Vietnam, and they have linked their current thyroid problems to Agent Orange.

4. SOY

Phytoestrogens in soy proteins have been found to inhibit thyroid peroxidase. Soy is able to disrupt normal thyroid function by inhibiting the body's ability to use iodine, blocking the process by which iodine becomes the thyroid hormones, inhibiting the secretion of thyroid hormone, and disrupting the peripheral conversion of T4 to T3. Researchers have also found that infants fed soy formula had a prolonged increase in their thyroid-stimulating hormone (TSH) levels, compared to infants fed non-soy formulas. Soy is also commonly a genetically modified food (GMO), which adds another variable to consider.

5. PESTICIDES

One study found that women married to men who used pesticides in their daily work were at a much higher risk of developing thyroid problems than other women. Another study warns that about 60 percent of pesticides used today may affect the thyroid gland's production of hormones. Many antifungals and weed killers used on produce have been shown to decrease thyroid function and increase weight-loss resistance.

6. FLAME RETARDANTS

Flame retardants, or polybrominated diphenyl ethers (PBDEs), have been found in several studies to disturb thyroid function. Flame-retardant chemicals are found in television and computer screens, as well as in the foam used for furniture and carpeting padding. PBDEs are also found in many Americans, and are linked to behavioral and developmental problems.

7. PLASTICS

Beyond an environmental concern, plastics can also be hazardous to your body's environment. Antimony, a chemical that leaches from plastic bottles, is one concern. Researchers at the University of Copenhagen found antimony levels in fruit drinks and juices in plastic bottles at levels 2.5 times higher than what's considered safe in tap water! Phthalates in some plastics have been shown to decrease thyroid function. Bisphenol A (BPA) — also used in plastics, food can coatings, and dental sealants — decreases thyroid receptor site sensitivity, causing thyroid resistance, similar to PCBs.

8. PFOA

One study found that peruorooctanoic acid (PFOA), a chemical used to make Teflon, food wrappers, and other products, can affect thyroid function even at moderate levels of exposure. A study in Environmental Health Perspectives found that higher concentrations of PFOA are associated with the thyroid conditions that are seen today.

9. HALOGENS

Fluoride and chloride exposure can lead to a decrease of iodine transport and block the conversion of the T4 to T3, which is the active form of your thyroid hormone. Fluoride was found to suppress thyroid function, and the dose needed to reduce thyroid function was low, 2 to 5 mg per day. You can absorb these halogens through your food, water, medications, and the environment. Because they're similar to iodine, they can occupy your iodine receptors, making the body's iodine levels unusable.

10. HEAVY METALS

Mercury, lead, and aluminum can all trigger antibodies, which in turn can lead to autoimmune thyroid conditions such as Grave's and Hashimoto's disease. This is not acute poisoning that I am referring to, which would show up on a conventional blood test. I'm referring to a chronic heavy metal toxicity which can only be accurately shown with a urine test using a chelating agent. The chelator will pull the metals from your cells where it has leached, so it can actually be measured on the test.

11. ANTIBACTERIAL PRODUCTS

Triclosan is an antibacterial chemical added to soaps, lotions, and toothpastes. Although some research has shown small amounts to be safe, there's evidence that triclosan is an endocrine disruptor and impacts thyroid function. One recent study found that triclosan had an effect on thyroid hormones, and another showed that triclosan interacted with androgen and estrogen hormone receptors.

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STEP 6 - ADDRESS THE PROBLEMS

After we find out all the different underlying factors in your case, then it is time to address on an individual basis. Customizing a comprehensive health care plan is the most effective and sustainable way to regain one's health.

You heal with meals not medicines. Tailoring a food medicine plan is part of addressing your problems. Hippocrates, the father of medicine said "Let food be thy medicine, and medicine thy food". By customizing recipes, menu plans, shopping guides, and eating out guides based on your diagnostic results, we can nourish the body with just the right food medicines. Because of biological variability (everyone is uniquely designed) I have seen many "healthy" foods make them worse. What works for one person, won't work for everyone.

Using condition specific natural medicines is another way to target the underlying deficiencies, imbalances, infections and inflammatory cascades. As you heal you can come off of these healing tools and transition to just use the foods you eat as medicine.

I wish this part was an easy answer where I could write out the magic formula for everyone. It's not that simple. There are no magic pills or wonder diets. This is where your journey to health begins, and it's your journey, no one else's.

We coach people all around the world through our virtual Functional Medicine clinic. Phone and webcam consultations offer people personalized natural healthcare wherever they are. Take advantage of our free evaluation to get your questions answered and to see if Functional Medicine is right for you.

Call 724-772-9833 if you are in the united states or visit www.drwillcole.com.