3 Proven Steps to Improve Your Energy & End Fatigue for Good

Discover the major causes of fatigue and a functional medicine approach you can use to getting your energy back.

CONTENTS


I believe with the right tools you can rebuild yourself

A Functional Medicine Approach to Improving your Energy & Metabolism

One of the biggest complaints I hear from patients in my clinic is that they're tired, exhausted, fatigued—common complaints that you may relate to: I can't get out of bed. I'm not a morning person. I get exhausted by mid-day. I just don't seem to have energy to get me through the day.

Many rely on quick ingestible stimulants to get them going again, including coffee, chocolate, black tea, and other high-sugar caffeinated drinks. Some people think high-carb foods will help, like cookies, chocolate, pasta, etc. Eating those is a double-edged sword; junk carbs will spike your blood sugar and insulin, which may cause more of an energy crash.

To improve your energy, it's important for you to know there are multiple pathways and systems that provide us with energy: food and blood sugar; the thyroid gland and its hormones; the adrenal glands and their hormones, and let's not forget sleep. Let's start with how food produces energy.

Eat Fuel

Food provides the vitamins, minerals, and phytochemicals (plant chemicals) that control intricate cellular machinery, as well as the raw material needed to make healthy bones, muscles, and other tissues of the body. It also provides the calories we need to produce energy.

Here is a short explanation on how we derive energy from food. The protein, fats, and carbs we eat must be broken down into smaller molecules before the cells can use them. Two things happen to these smaller particles: they are used for building blocks or as a source of energy. Digestion is the first stage of the breakdown process, where enzymes break down food molecules into smaller subunits—proteins into amino acids, carbs into sugars, and fats into fatty acids and glycerol.

After digestion, the small molecules derived from food enter cells where a gradual oxidation (further breakdown) takes place. In the second stage of energy production, a chain of reactions called glycolysis converts each molecule of glucose (sugar) into smaller units called pyruvate. Similarly, fats are biochemically broken down into acetyl CoA. In stage three, pyruvate and acetyl CoA end up in the mitochondria—the powerhouse of the cell—where they are turned into the high energy compound ATP, the energy currency of life. ATP is the high-energy molecule that stores the energy we need to do just about anything.

The Thyroid

There is a ton of information to be found on thyroid dysfunction and the metabolic and hormonal issues that come from hypothyroidism.

Before we dive into the role thyroid dysfunction plays in energy management, here is a brief and simplified explanation of how it works.

The thyroid is a small butterfly-shaped gland that sits behind and below your Adam's apple. It produces several thyroid hormones, two of which are essential for health and metabolism: thyroxine (T4), the most abundant, and triiodothyronine (T3), the most biologically active.

The physiologic effects of these hormones include development, growth, and metabolism. Thyroid hormones increase basal metabolic rate (metabolism), body temperature, levels of cholesterol and triglycerides, and carbohydrate metabolism.

> The brain, heart, lungs, intestines, sex glands, muscles, and adrenal glands owe much of their function to normal thyroid function.

Other thyroid hormones include thyroid stimulating hormone (TSH), thyroid peroxidase (TPO), and thyroglobulin (Tgbn). TSH is produced from the pituitary gland, which acts on the thyroid to stimulate the production of T3 and T4.

The pituitary and thyroid act together like a thermostat. If T3 or T4 are low, the pituitary spits out TSH to stimulate the thyroid to produce more T4 and T3. When there is enough T3 and T4 circulating in the blood, the pituitary shuts off production of TSH.

Thyroid peroxidase (TPO) is an enzyme involved in thyroid hormone production. In Hashimoto's thyroiditis, an autoimmune dysfunction, the immune system produces antibodies that attack the thyroid and take down TPO. This can and will lead to low thyroid function and elevated TPO antibodies.

Thyroglobulin is a protein that binds to the amino acid tyrosine and the mineral iodine needed for the production of T3 and T4.

Putting This All Together:

The thyroid receives information from the pituitary gland in the form of TSH (thyroid stimulating hormone).

This pituitary hormone directs the thyroid to produce hormones T4 and T3, from iodine, protein, and the amino acid tyrosine. While the thyroid produces significantly more T4 than T3, T3 is far more biologically active.

Once T4 is converted to T3, it is taken up by cells.

Once inside cells, T3 activates certain pathways to increase energy production and metabolism; protein production and the breakdown of fat and carbohydrates; mineral exchange within cells; and insulin production (a hormone that regulates blood sugar).

In fact, T3 activates over 100 enzymes to produce a multitude of bodily functions.

When the thyroid is weak and the level of T3 and T4 are low, symptoms can include:

- **Low energy and fatigue**
- **Dry skin and dandruff**
- **High cholesterol**
- **High triglycerides**
- **Low libido**
- **Cold body temperature**
- **Constipation**
- **Brain fog**
- **Depression**
- **Increased body fat**
- **Cognitive dysfunction**
- **Infertility**
- **Irregular menstrual bleeding**

Thyroid Considerations:

The thyroid's role in energy and metabolism is complex. Typically, the thyroid can weaken as a consequence of poor diet, nutrient deficiencies, autoimmune attack, and interruption of function due to adrenal dysfunction and elevated cortisol.

This is the main reason that altered thyroid hormone production and/or function have such a broad range of negative effects on behavior, energy level, and physical well-being.

In fact, the brain, heart, lungs, intestines, sex glands, muscles, and adrenal glands owe much of their function to normal thyroid function.

The most common thyroid dysfunctions associated with low energy and fatigue are:

- Low levels of free T3;
- Normal T4, normal TSH, and low free T3 – aka Low T3 Syndrome or Non-thyroidal Illness Syndrome;
- Hashimoto's thyroiditis: Elevated TPO antibodies, elevated Anti-thyroglobulin antibody (TgAb), possibly a high TSH, low free T4 and T3.

Z Note: Low T3 Syndrome is a common condition I see in my clinic in those who have hypothyroid symptoms and have been told there is nothing wrong with their thyroid.

Low T3 Syndrome is not a dysfunction of the thyroid itself; however, low T3 will cause hypothyroid symptoms.

Low T3 can be caused by a poor conversion of T4 into T3. This conversion happens by specific enzymes in the liver, and other tissues of the body.

Z Note: Hypothyroid—weak thyroid—is a common dysfunction where there are inadequate thyroid effects to meet the needs of our cells and tissues. The TSH is thought to be the most sensitive test to determine adequate thyroid function, and it is carelessly assumed by many practitioners that a normal TSH levels indicates proper thyroid function.

However, TSH is a brain-based hormone that does not indicate the overall status of the thyroid, and certainly not how the thyroid hormones T4 and T3 work in the body. Basically, TSH is just a marker of pituitary levels of T3 and not of T3 levels in other parts of the body.

Stress, depression, insulin resistance and diabetes, aging—yes, aging—calorie deprivation, inflammation, chronic fatigue, obesity, and other chronic conditions can affect the natural response between TSH and circulating T3 levels. Thus, in the presence of these conditions, TSH is a poor marker of active thyroid hormone levels and thyroid status.

Poor T4 to T3 conversion can be due to a deficiency of zinc, selenium, and magnesium; heavy metal toxicity (mercury, lead, cadmium); liver damage (caused by viruses, alcohol, etc.); or hormone imbalances caused by excessive stressors, such as high cortisol.

High cortisol can causes a deficiency of zinc and selenium, and inhibit production of TSH.

A normal physiological level of cortisol is essential for optimal thyroid function; therefore, cortisol levels should be checked and adjusted with adrenal support, if necessary, before attempting thyroid therapy. Low or high cortisol can impair the cellular actions of thyroid hormone. Low T3 may also be due to medications (i.e. dexamethasone, lithium, amiodarone), illness, and starvation (carbohydrate restriction).

Under short periods of stress, the brain (pituitary gland) signals the adrenals to secrete cortisol, norepinephrine, and adrenaline to deal with the momentary threat.

The Adrenal Glands

The adrenal glands (stress glands) sit above the kidneys and enable the body to deal with stress and survival.

They are involved in the “fight or flight” response. Under short periods of stress, the brain (pituitary gland) signals the adrenals to secrete cortisol, norepinephrine, and adrenaline to deal with the momentary threat.

Once the threat or stressor is gone, the brain and adrenals come back to their normal resting state.

The adrenal hormones involved in the stress response include:

Cortisol

The primary stress hormone that manages the stress response of everyday living.

Cortisol helps manage blood sugar; controls inflammation; builds bone and muscle; manages mood and energy; and controls immune responses against disease.

Cortisol also aids in the breakdown of protein, fat, and carbohydrates, which provide energy, and it acts as an anti-inflammatory.

Epinephrine (adrenaline)

Under stress, adrenaline causes an increased heart rate and constriction of blood vessels; it also dilates air passages and increases energy.

Norepinephrine

Norepinephrine helps to provide energy and increases heart rate, as well as oxygen to the brain and blood flow to the muscles.

Norepinephrine also helps get rid of fat.

DHEA

DHEA is one of the most abundant hormones in the body.

It is a precursor to estrogens and testosterone, and it also balances some of the negative effects of high cortisol.

In addition to these momentary stressors, our crazy lifestyles expose us to too much caffeine, extreme exercise, nutrient deprivation, and sleep deprivation without adequate recovery.

Over time, unresolved and unmanaged stressors cause a reduction in the pituitary signaling to the adrenals, with a subsequent reduction in adrenal hormone output.

This adrenal fatigue may present symptoms from allergies and immune dysfunction to low energy and fatigue, anxiety, depression, sugar cravings, and more.

Adrenal fatigue, as well as adrenals running in hyperdrive, can also create imbalances of other hormones. When stress runs high, cortisol can have an adverse effect on progesterone levels and inhibit thyroid function.

When the adrenal glands are in balance and hormone levels are adequate, we can manage stressors and produce energy to power through the day.

Cortisol, adrenaline, norepinephrine, and DHEA help regulate just about every process in the body: immune activity; cellular maintenance and repair; blood sugar control; bone and muscle building; mental focus and mood; sex drive; sleep; and energy and metabolism.

Adrenal Fatigue and Cortisol

Regarding adrenal function and its role in helping to create and maintain energy, there are basically two states of adrenal function: adrenal fatigue and overactive adrenal function.

Under long-term situations of excessive stress, the adrenals try to keep up with the demands of the stressors by flooding the system with cortisol.

However, when the demands of the stressors exceed the body's ability to meet those demands, the adrenals eventually become exhausted.

This is adrenal fatigue. Adrenal exhaustion is most commonly caused by stressors, which include: psychological stress (emotional); sleep deprivation; poor diet (low protein, particularly problematic in vegetarians); nutrient deficiencies (particularly low vitamins C and B5); physical insults (surgery, injury); diseases (cancer, diabetes); chemical exposure (environmental pollutants, excessive medications); low levels of cortisol precursors (pregnenolone and progesterone); and pathogenic infections (bacteria, viruses and fungi).

Symptoms associated with adrenal dysfunction or adrenal fatigue include:

- Sleep disturbances
- Morning and evening fatigue
- Difficulty getting up in the morning
- Aches and pains
- Chronic irritability
- Increased belly fat around the waist
- Depression
- Sugar cravings
- Low libido

How to Rebuild your Energy and Metabolism

Under times of chronic stress, elevated cortisol has several adverse effects on the thyroid and thyroid hormones.

Elevated cortisol will:

• Decrease the production of thyroid stimulating hormone (TSH). If TSH drops, there is less communication to the thyroid thus less T4 and T3 produced.

• Cortisol will prevent the conversion of T4 to T3. Normal T4 and low T3 is low T3 syndrome, aka Non-thyroidal Illness Syndrome.

• Cortisol will block the action of T3 on cells and tissues, causing hypometabolism in organ systems in the body.

• High cortisol will cause the liver to produce thyroid binding globulin (TBG)—a protein that binds to thyroid hormones to transport them through the body.

If TBG is elevated, thyroid hormones are inactive until they are cleaved from TBG to become free and active to do their job on cells and tissues. If TBG is high in the blood, free T4 & T3 are likely to be low.

With a better understanding of how we turn food into energy, along with the hormones involved in energy production, here are actionable steps you can take to eliminate fatigue and have plenty of energy to power you through your day.

Simple Food Rules

Start off the day more balanced by eating protein and complex carbs (plants). A meal high in protein can be helpful in one respect; it raises noradrenaline and dopamine levels in the brain (two chemical messengers which keep you alert and motivated and full of energy). Since the main energy source for the body is carbohydrate, eating only protein is not recommended. Having a balanced meal consisting of protein, fats, and complex carbohydrates is preferred.

Simple carbohydrates release sugar in the body at a faster rate than complex carbs, fats, and protein, and give the body an immediate “up” feeling. Because simple carbohydrates are short-lived, you are constantly fighting a battle for energy during the day.

Eat 4-5 Small Meals a Day

For the sake of variety and health, a moderate diet consisting of protein, complex carbs, and fat appears to be better in the long run. A simple diet to follow consists of 30% protein, 20% fat, and 50% carbs. Frequent small meals allow a constant source of fuel for the body and provide energy to power you through your day. To get maximum energy from food, it’s best to eat it frequently in small amounts—three small meals a day and two small snacks in between.

FREQUENT SMALL MEALS ALLOW A CONSTANT SOURCE OF FUEL FOR THE BODY AND PROVIDE ENERGY TO POWER YOU THROUGH YOUR DAY.

With each meal include a small piece of protein (chicken, fish, etc.), small salad or side of greens, and a touch of fat or oil (olive, avocado).

Hummus with vegetables make a great snack, as you can pack it up and travel with it.

Include a serving of nuts and seeds and small piece of fruit.

Limit Your Eating at Night and Don't Eat Refined Carbs After 6-7pm

Eating late at night is unhealthful for a myriad of reasons, predominately because it disrupts the production of hormones that help us burn fat for energy.

Eating a carbohydrate-rich meal at night decreases the production of growth hormone.

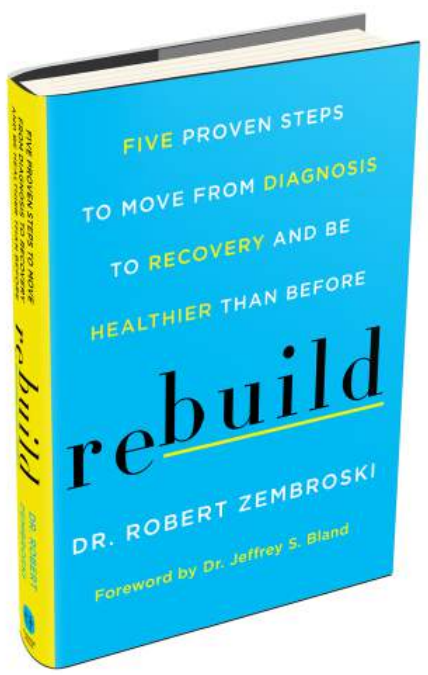
Growth hormone is necessary for turning body fat into fuel for energy.

Eating a calorie-rich meal will also cause insulin (a hormone that regulates blood sugar and metabolism) to elevate, which will store excessive blood sugar as fat.

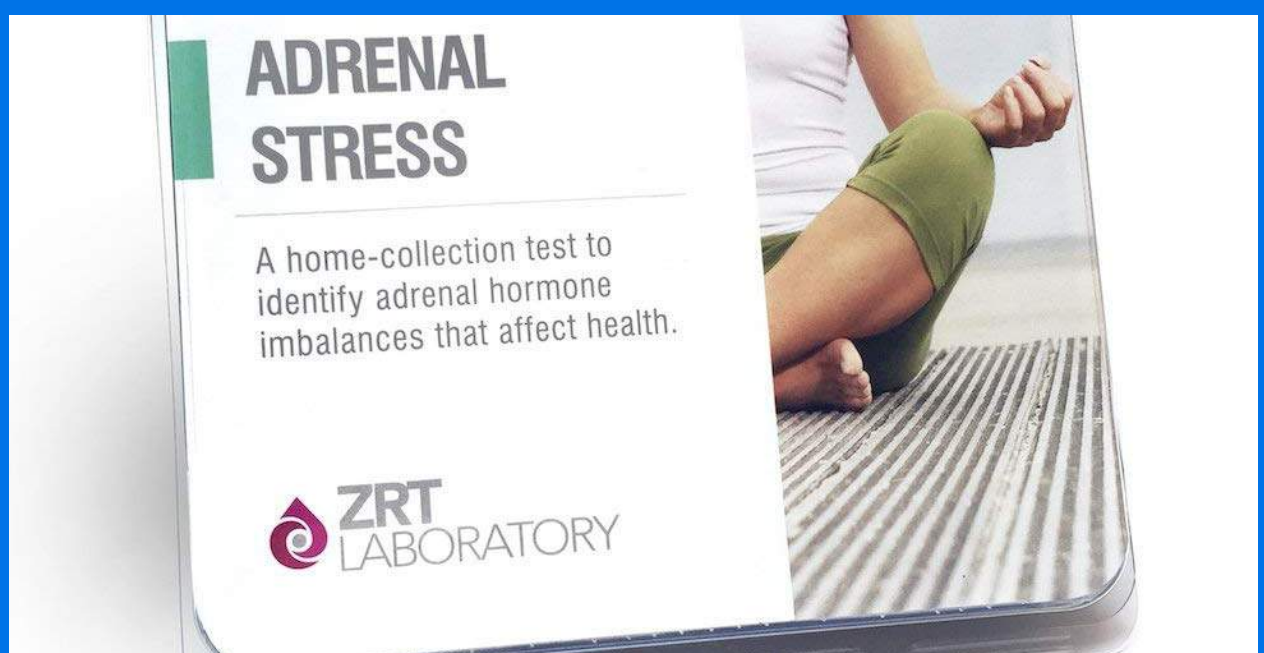
Not only is this undesirable, it is unhealthful as it will increase body fat and slow down your metabolism and energy production.

Z Note: If you radically restrict your calories, you can affect production of your thyroid hormones, as well as how those hormones influence the body to produce energy.

For more information on the detrimental impact of eating carbs when the moon is out, and the effects of radical dieting on the hormonal system, go to: drzembroski.com/rebuild to order your copy of *Rebuild*



Testing for Adrenal and Thyroid Dysfunctions



Eating too many carbs at night will make you fat and sick when you sleep.

For diagnosing adrenal fatigue or thyroid dysfunctions the only lab I recommend is ZRT Laboratory. As a clinician, I want a lab that is consistent and reliable in their evaluations, and ZRT meets both of those criteria.

They also provide expert clinical consulting to help evaluate and assess the needs of the patient.

There are two tests available from ZRT to check adrenal function and cortisol, as well as thyroid function, including free T3, free T4, and TPO antibodies:

Saliva and Blood Spot Combo Kits:

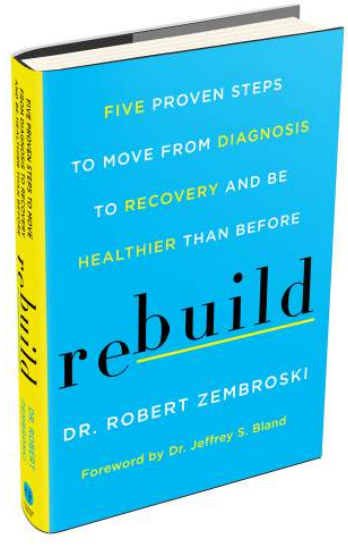
- **Comprehensive female profile #2 with vitamin D**
- **Comprehensive male profile #2 with vitamin D**

The saliva/blood combo kits require you to provide four saliva samples in one day and 10-12 drops of blood from a finger prick. The full test is done at home, and the samples are then sent to the lab through UPS. The kit includes a prepaid UPS label and bag for delivery to the lab.

Note: Contact us to get your testing kit and/or which testing kit is right for you. To consult with me to review your test results and provide treatment options you can call us at **203-655-4494**, or send an email to **info@darienfm.com.**

www.drzembroski.com/rebuild

Resolve Adrenal Fatigue and Lower your Cortisol



Both simple and complex dysfunctions can be found in adrenal testing. Depending on what's found, specific treatment is recommended. These are some generalized recommendations based on adrenal fatigue and elevated cortisol levels.

Tips to Overcome Adrenal Fatigue:

• Take 3000 mgs of vitamin C during the day. 1000 mg with each meal.

• Take 20 mg of Riboflavin (vitamin B5) twice daily.

• Eat 3-4 servings of protein (roughly 3-4 oz) a day.

• For additional adrenal support I recommend Adreset® from Metagenics. It contains the herbs Asian Ginseng (Panax ginseng) and Rhodiola (Rhodiola (Rhodiola rosea L.).

Both Ginseng and Rhodiola are adrenal adaptogens; they support adrenal function. The recommended dose is 2 capsules a day to start.

• Don't work out at night; doing so will elevate cortisol and keep you awake.

• Don't work out until exhaustion, as this will also exhaust the adrenals.

Tips to Regulate Elevated Cortisol:

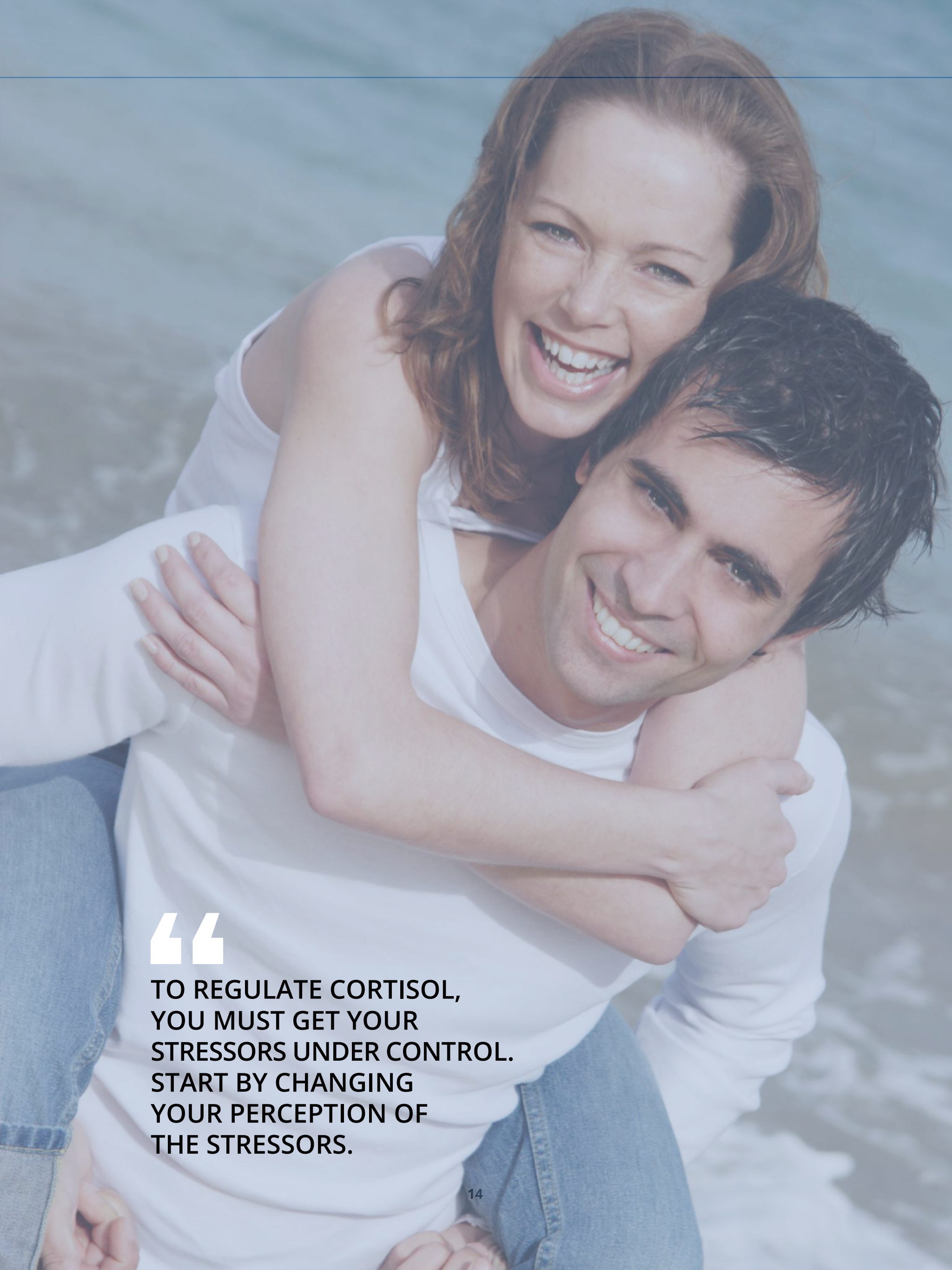
• To regulate cortisol, you must get your stressors under control. Start by changing your perception of the stressors. For more information on the devastating effects of stress and how to get it under control, get a copy of my newest book, *Rebuild.* (See Resources at the end of this eBook.)

• To reduce cortisol based on the elevations found in lab testing, there are two natural products known to reduce cortisol levels when they are high:

- Seriphos
- Phosphatidylserine

Because each person with elevated cortisol responds differently to each nutrient, it is hard to say which one to use and how much to take. In my experience, phosphatidylserine works well at supporting the adrenals and reducing cortisol.

Depending on the time of day your cortisol is elevated, take phosphatidylserine a couple of hours before the measured elevated cortisol. So, if your cortisol runs high at night, take a couple of capsules a couple of hours before bed. Typically, this will drop the hormone levels and give you a better night's sleep.



TO REGULATE CORTISOL, YOU MUST GET YOUR STRESSORS UNDER CONTROL. START BY CHANGING YOUR PERCEPTION OF THE STRESSORS.

Hypothyroid and Dysfunctional Thyroid Hormone Function

There are also both simple and complex dysfunctions that can be found in thyroid testing. Once the thyroid dysfunction has been found, you must **first resolve** adrenal dysfunction before you tackle the thyroid issues.

• Low energy and fatigue can be due to a hypothyroid issue. Look at free T3, free T4, TSH, TPO antibodies, and Thyroglobulin anti-bodies. Typically a true hypothyroid state will show low T4, low T3 and elevated TSH.

• If your blood shows normal free T4 and low free T3, that is Low T3 Syndrome or Non-thyroidal Illness Syndrome.

Excessive stress and associated high cortisol can cause mineral deficiencies (zinc and selenium) important for liver conversion of T4 to T3.

So, If T4 is normal and T3 is low, you need to resolve the adrenal dysfunction first. You should also take zinc, selenium, and magnesium to help convert your T4 into T3. By doing so,you elevate your T3 and should notice improved energy.

Note: A normal physiological level of cortisol is essential for optimal thyroid function; therefore, cortisol levels should be checked and adjusted with adrenal support, if necessary, before attempting thyroid therapy. Low or high cortisol can impair the cellular actions of thyroid hormones.

Poor T4 to T3 conversion can be due to nutrient deficiency (e.g., zinc and/or selenium), heavy metal toxicity (mercury, lead, cadmium), liver damage (caused by viruses, alcohol, etc.), or hormone imbalances caused by excessive stressors (e.g., high cortisol). Low T3 should always be assessed in concert with the level of steroid hormones, particularly cortisol.

Hashimoto's thyroiditis is an autoimmune dysfunction. The extent of the thyroid damage from an autoimmune attack comes in different stages. However, the end result of prolonged autoimmune attack on the thyroid is low T4, low T3, and high TSH with elevated TPO antibodies and thyroglobulin antibodies.

Tips to Overcome Thyroid Dysfunction:

• Don't starve yourself of calories. Severely restricting your calories will disrupt thyroid function.

• Resolve your adrenal dysfunction. See previous information.

• Different thyroid dysfunctions can happen, and there are different ways to treat the thyroid issues with pharmaceuticals and/or nutraceuticals (supplements) or a combination of both.

A classic hypothyroid state may require medications such as Synthroid, which is a synthetic T4. There are more natural alternatives, such as Armour thyroid, Nature-throid, and compounded T4 and T3 made by compounding laboratories.

• Normal T4 and low T3. Consider taking zinc, selenium, and magnesium to help convert T4 to T3.

When dealing with Hashimoto's thyroiditis, you must fix the reason behind the autoimmune disease.

Having a doctor throw Synthroid at it based on elevated TPO antibodies is the wrong way to treat this. The biggest reasons behind Hashimoto's disease are:

Gluten from grains. Gluten interacts with bacteria in the gut producing a protein called zonulin, which causes the gut to become permeable, allowing micro-organisms and unwanted particles and proteins to get from the inside of the gut into the blood stream. This causes systemic inflammation and eventually can lead to Hashimoto's disease.

Low vitamin D. Vitamin D is made in the skin through sunlight and taken in through the diet. Once either of those happen, it becomes the hormone calcitriol (1,25 hydroxyvitamin D), which has powerful effects on the immune response.

If it is too low, it will decrease regulation of the immune response, leading to autoimmune disease.

You must get your blood levels of vitamin D up to 60-80ng/ml.

Anything less will contribute to the formation and progression of Hashimoto's thyroiditis.

- Get your cortisol under control. See previous recommendations. High cortisol will not only cause dysfunction of the immune system; it will cause increased gut permeability, aka leaky gut, similar to the mechanisms of gluten.
- Eliminate grains with gluten, milk products, and white refined sugars. Eat plant-based foods 4-5 times a day, a few sources of protein, and healthful fats and oils.
- Keep alcohol to a minimum. Alcohol causes the depletion of zinc, selenium, magnesium, and B vitamins, all of which are needed to convert T4 to T3.

While there are numerous dysfunctions of the thyroid, adrenals, or a combination of the two, it is difficult to provide all that is needed to rebuild those systems to improve your energy and eliminate fatigue.

By having a greater understanding of the systems that create energy and implementing some of the tools listed you will, without question or doubt, have much more energy to power you through the day.

Additional Z Notes to Improve Your Energy and Metabolism [Read on]

P: + 203-655-4494 **E:** info@darienfm.com **AD:** 870 Post Road, Darien, CT 06820

Additional Z Notes to Improve Your Energy and Metabolism

Z Note #1 – Don't Eat Carbs for Breakfast

Simple carbohydrates release sugar into the body at a faster rate than complex carbs, fats, and protein; that gives the body an immediate "up" feeling.

Because simple carbohydrates are short-lived, you are constantly fighting a battle for energy during the day. Start the day off more balanced by eating a whole-grain cereal, sprouted-grain breads (complex carbohydrates), eggs, or even a nutritious protein shake. A meal that is high in protein can be helpful in that it raises noradrenaline and dopamine levels in the brain (two chemical messengers which keep you alert and motivated and full of energy).

Since the main energy source for the body is carbohydrates, eating only protein is not recommended. Having a balanced meal consisting of protein, fats, and complex carbohydrates is preferred.

Z Note #2 – Eat 4-5 Small Meals a Day

There is no consensus on what constitutes the best diet. For the sake of variety and health, a moderate diet consisting of protein, complex carbs, and fat appears to be better in the long run.

A simple diet to follow consists of 30% protein, 20% fat, and 50% carbs. Frequent small meals allow a constant source of fuel for the body and energy to power you through your day.

Z Note #3 – Drink more water

Most people don't drink enough water. Water is made up of two parts hydrogen and one part oxygen.

The oxygen from the water is needed for many processes in the body, including producing energy.

How much water should you drink?

The rule of thumb is to divide your body weight in half. This number equals the amount of water in ounces needed for your body daily.

For most, this is roughly 4 liters a day. It is very important to drink at least 1 liter upon waking up in the morning, as this is when your body is most dehydrated from a long absence of water.

Z Note #4 – Limit Your Eating at Night, and Don't Eat Carbs After 6-7pm

Eating late at night is unhealthful for a myriad of reasons, predominately because it disrupts the production of hormones that help us burn fat for energy. Eating a carbohydrate-rich meal at night decreases production of growth hormone, which is necessary for turning body fat into fuel for energy.

Eating a calorie-rich meal will also cause insulin (a hormone that regulates blood sugar and metabolism) to elevate, which will store excessive blood sugar as fat. Not only is this undesirable, it is unhealthful as it will increase body fat and slow down metabolism and energy production.

Z Note #5 – Exercise

Physical exercise promotes mental health, reduces anxiety and stress, and increases energy.

Research has shown that regular aerobic exercise boosts the immune system, increases endorphins, lowers blood pressure and cholesterol, and decreases the risk for developing cardiac disease, diabetes, and obesity.

Different types of aerobic exercise can be performed for varying lengths of time depending on how strenuous the activity.

Aerobic exercising includes: dancing, skating, skiing, running, walking, bicycling, stair climbing, and swimming. The benefits of regular aerobic exercise are very apparent and should be incorporated into everyone's life.

Going to the gym, jumping on a bike, or into a pool is not always an option during the day.

If you are unable to do any strenuous activity during the day or at your lunch break, try going for a 15-minute walk after eating your lunch.

This exercise will improve digestion as well as increase your energy levels.

Other ideas include getting off the bus or train one stop earlier and walking the rest of the way. You could also take the stairs instead of the elevator.

While it may be hard to exercise and work out during the day, periodic bursts of physical activity throughout the day will definitely improve your focus, attention, and your energy level.

If you find that no matter what you change about your eating, sleeping, and exercise habits, you still have no energy and remain fatigued, an underlying health problem may exist.

Fatigue and poor energy can be attributed to a sub-clinical thyroid weakness, adrenal-gland fatigue, hypoglycemia (low blood sugar), and a host of other undiagnosed physical issues.

Z Note #6 – Get Adequate Sleep

There is evidence to suggest that a lack of sleep can lead to alterations in appetite regulation. Studies show that not enough sleep alters circulating levels of Ghrelin and Leptin, hormones that regulate hunger.

Not getting enough sleep makes your body think there is a shortage for food and activates the appetite centers in the brain. This causes an increased appetite and the desire for calorie-dense, high carbohydrate foods.

Remember that simple sugars and simple carbohydrates lack any nutritional value. They will spike your blood sugar and give you that momentary boost of energy. Following this "high", your blood sugar crashes and you become exhausted. Eight hours of sleep a night is recommended.

Resources

For more information on improving your energy, resolving your chronic health issues, and recovering from disease, get a copy of my newest book, *Rebuild*, at www.drzembroski.com/rebuild.

When you order your copy, you get a gift—the Rebuild Logbook.

From recording your daily food intake to your workout routine and your emotional state, the Rebuild Logbook gives you a place to record everything about your personal journey back to excellent health.

Call us at 203-655-4494 or email us at info@darienfm.com to order your hormone testing kit.

To order specific nutraceuticals mentioned previously, go to: http://www.drzembroski.com/product/metagenics/

Follow me on social media:

Facebook.com/Zembroski

Twitter.com/DrRobZembroski

Instagram.com/drzembroski

YouTube: Dr Z TV

Linkedin.com/dr-robert-zembroski

Medical Disclaimer

The contents of this eBook are presented for information purposes only and are not intended to replace the advice of a physician or other health-care professional. Anyone wishing to embark on any dietary, exercise, or lifestyle change for the purpose of preventing or treating a disease or health condition should first consult with, and seek clearance and guidance from, a competent health-care professional.

Any individual wishing to apply the information in this eBook for the purposes of improving their own health should not do so without first reviewing the scientific references cited and consulting with a qualified health practitioner. All patients need to be treated in an individual manner by their personal medical advisors.

The decision to utilize any information in this eBook is ultimately at the sole discretion of the reader, who assumes full responsibility for any and all consequences arising from such a decision.

The author shall remain free of any fault, liability or responsibility for any loss or harm, whether real or perceived, resulting from use of information in this eBook.

References:

Walter KN, CorwinEJ, Ulbrecht J, et al. Elevated thyroid stimulating hormone is associated with elevated cortisol in healthy young men and women. Thyroid Research 2012, 5:13

Iranmanesh A, Lizarralde G, Johnson ML, et al. Dynamics of 24-hour endogenous cortisol secretion and clearance in primary hypothyroidism assessed before and after partial thyroid hormone replacement. The Journal of Clinical Endocrinology & Metabolism Vol. 70, Issue 1, January 1990