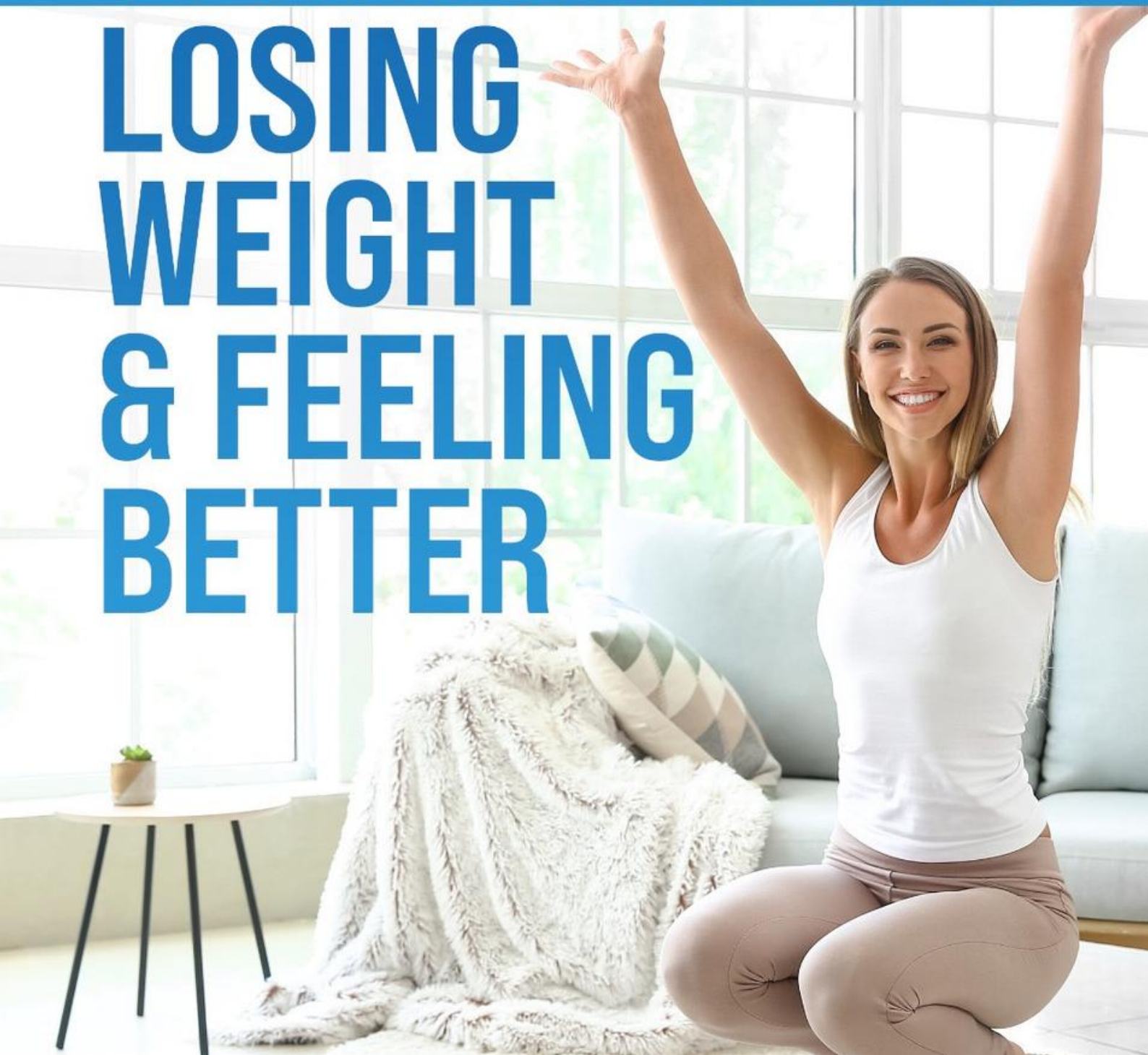
THE TOP 7 UNDERLYING CAUSES

TO WHY YOU'RE NOT

LOSING WEIGHT & FEELING BETTER



WELCOME

If you've been struggling with losing weight and believe there is an underlying cause, we welcome you to learn the 7 underlying causes as to why you're not losing weight and feeling better. This guide was designed to help you identify the underlying causes to your unwanted weight gain.

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PART ONE

INTRODUCTION

Have you ever asked yourself these questions when contemplating a dietary program?

- What type of diet should I follow?
- How do I cook for my family if I have to eat like this?
- I have an event I'm going to, what can I eat at this event?
- Do I have to eat like this for the rest of my life?
- Is this way of eating expensive because my finances are limited?
- Is this diet flexible and can I cheat on it?
- How many calories should I be eating a day?
- Does this diet have a lot of rules and restrictions to it?
- Do I have to eliminate all the foods I love?
- I'm a picky eater, are there going to be foods on this diet I like?

If you're like most people, you have probably experienced frustrations with dieting and came across questions such as these when trying to change your health through foods. The first approach many people take when wanting to lose weight and feel better is adjusting their food choices. From breakfast to dinner and all the snacks in between, our food choices impact how we feel, how we look, and even our health. So, it makes sense our first attempt to drop unwanted weight and to feel better is to make healthier food choices.

But wait……

What happens if you have already changed the way you eat and are still not seeing results? Or worse yet, the number on the scale is hardly budging? You probably start thinking in your head, what's wrong with me! You jump on the internet to research and maybe even scroll their social media posts, just trying to find an answer to why you're not losing weight and feeling better. You're left confused because everything you're reading, you've tried before.

If this sounds like you, you're not alone. There are millions of people who experiment with dieting, supplements, medications, exercise, and other similar approaches to lose weight and feel better each year. But no matter what they try, results are not achieved. In these

But how do you know if you have an imbalance in the body?

One of the first signs of body imbalances is unwanted symptoms such as fatigue, poor sleep, bloating, headaches, and depression. These unwanted symptoms can precede weight gain or come about after gaining weight. The other ways to identify body imbalances are through comprehensive lab testing. These types of lab panels take a deeper dive into the possible underlying causes of health issues. You'll most likely need to find an integrative or functional medicine-based health practitioner to order these types of labs. Integrative and functional medicine-based practitioners understand how to connect the dots to health issues and fix the underlying causes to the problem rather than using a Band-Aid approach to covering up the symptoms. The first element these practitioners review are the possible body pathway imbalances which are causing unwanted weight and symptoms. There are seven common pathways which time after time are associated with weight loss resistance and feeling unwell.

The Top 7 Biochemical Pathway Imbalances Which Cause Weight Gain & Unwanted Symptoms

1.) Appetite Biochemical Imbalances
2.) Metabolism Biochemical Imbalances
3.) Body Composition Biochemical Imbalances
4.) Energy & Sleep Biochemical Imbalances
5.) Inflammatory Pain Biochemical Imbalances
6.) Digestive Biochemical Imbalances
7.) Neurological Biochemical Imbalances

In the next section, we are going to explore each of these biochemical imbalances, the possible underlying causes of these imbalances, and the nutrients and herbs needed to correct them.

PART TWO

IDENTIFYING UNDERLYING CAUSES WITH NUTRIENT SUPPORT PROTOCOLS

APPETITE BIOCHEMICAL IMBALANCES

"I have an uncontrollable appetite and cravings, I'm miserable!"

One of the top reasons why most people quit dietary programs is because of uncontrollable appetites or insatiable cravings. When daily calorie levels decrease or addictive foods are eliminated, the body cries out "Feed Me More" or "Feed Me That" to make me happy. Who hasn't had this issue before when following a new dietary program? There is a medical explanation to why the body may have an uncontrollable appetite or insatiable cravings which common behavior changes cannot address. With people who continue having appetite and craving issues, despite adopting behavior changes, then a possible nutritional deficiency could be triggering a biochemical imbalance.

The Top Biochemical Imbalances Causing Uncontrollable Appetite & Cravings

1.) Leptin Hormone – GLP-1 Hormone Imbalance
2.) Serotonin Brain Chemical – Dopamine Brain Chemical Imbalance
3.) Glucose Blood Sugar – Insulin Hormone Imbalance

1 Leptin & GLP-1 Hormone Imbalance

Leptin and GLP-1 hormones are responsible for appetite control and fullness. Both leptin and GLP-1 hormone levels increase after food intake to suppress feelings of hunger. It's when there is a dysfunction or imbalance in these hormones that cause us to overeat, even though we are full and do not need any more food.

GLP-1 Hormone

GLP-1 (Glucagon-like peptide 1) is an incretin hormone that is produced in the gut and is stimulated by the intake of foods. This hormone helps slow gastric emptying and promotes a sense of fullness and satiety. Additionally, it stimulates the release of insulin hormones which then helps lower blood sugar levels in the body.

GLP-1 Hormone Nutrient Support

- Viscous Fiber
- Probiotics
- Resveratrol
- Curcumin
- Cinnamon
- Ginsenosides
- Chlorogenic Acid

Leptin Hormone

Leptin (i.e., the satiety hormone) is synthesized by adipocytes (i.e., fat cells) to signal the brain that you are full. Interestingly, overweight and obese people have an unusually high level of leptin stored in their body fat tissue; however, their cells do not respond properly to the action of this hormone (i.e., leptin resistance). Consequently, overweight people have faulty "I'm full" signals, which inadvertently causes the constant feeling of hungriness.

Leptin Hormone Nutrient Support

- Fiber
- Probiotics
- Amino Acids

2 Serotonin & Dopamine Neurotransmitter Imbalance

Both serotonin and dopamine brain chemical balance are vital in improving mood, restoring satiety, and decreasing cravings. An imbalance in one or even both neurotransmitters can be the underlying reason why someone has an uncontrollable appetite or cravings.

Serotonin Brain Chemical

Serotonin is known as the "feel-good" brain chemical which is responsible for overall mood. Many times, when people are depressed, they are prescribed selective serotonin reuptake inhibitors (SSRIs) to improve their mood. And even to suppress appetites, SSRIs are recommended in select individuals to quench the cravings. When the body is not producing sufficient levels of serotonin, a person can not only be constantly hungry, but they can also suffer from depression, poor sleep (1), pain (2), and GI issues such as irritable bowel syndrome (3). So, grabbing for a candy bar, ice cream cone, or any other feel-good treat that boosts mood is a signal of a possible serotonin biochemical imbalance.

There are key nutrients which naturally produce serotonin brain chemicals in the body. When there is deficiency in any of these nutrients, it can impair the synthesis and production of serotonin. Additionally, most of the serotonin production happens in the gut, so improving nutrition optimization via the gut-brain connection is critical in balancing serotonin neurotransmitters.

Serotonin Nutrient Support

- Tryptophan
- Iron
- Magnesium
- Vitamin B3 Niacin
- Vitamin B6 Pyridoxine
- Vitamin B9 Folate
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Probiotics
- Glutathione
- Omega 3

Dopamine Brain Chemical

Dopamine is known as the "rewards and pleasure" brain chemical which is responsible for a feeling of satisfaction. People who crave or have addictions to food, alcohol, drugs, or any other addictive behavior could be suffering from a dopamine neurotransmitter biochemical imbalance (4). If a person constantly "needs" a particular food and craves it so they can feel a sense of relief, this could be a signal of a dopamine imbalance.

Like serotonin brain chemicals, dopamine requires specific nutrients for synthesis and production. Also, supporting the gut-brain connection is vital for optimal dopamine function.

Dopamine Nutrient Support

- Phenylalanine
- Tyrosine
- Iron
- Magnesium
- Vitamin B3 Niacin
- Vitamin B6 Pyridoxine
- Vitamin B9 Folate
- Vitamin B12 Cobalamin
- Vitamin D
- Probiotics
- Omega 3
- L-Dopa

3 Glucose Blood Sugar & Insulin Hormone Imbalance

The last scenario which could be contributing to an uncontrollable appetite and insatiable cravings is a glucose-insulin imbalance. A drop in glucose blood sugar or an increase in insulin hormone secretion can stimulate feelings of hunger.

In many dietary plans which commonly reduce or eliminate carbohydrates, a person can experience low blood sugar levels. Carbohydrates break down in the body to glucose so a reduction in carbs will naturally reduce blood sugar. This is the reason why diets such as the Ketogenic and Low-Carb diets are popular among diabetics. The virtual elimination of carbohydrates will decrease glucose levels for diabetes and can assist in controlling the medical condition. However, a drastic drop in glucose can force the body into needing more fuel to function. Since glucose fuels many metabolic functions in the body, a decrease in it can cause hungriness and cravings, along with headaches, irritability, and fatigue.

On the flipside, when someone consumes a carbohydrate-rich diet, particularly simple carbs, the body responds by producing insulin hormones. As the body breaks down carbohydrates into glucose, the need to transport the glucose from the bloodstream into the cell is needed to produce cellular energy. When there is excessive glucose in the bloodstream, the pancreas is in overdrive producing insulin hormones to facilitate the transfer process. This overstimulation of insulin hormone production can lead to insulin resistance and elevated insulin hormone levels. High insulin levels are another predictive factor in causing appetite and craving issues because of the connection between insulin and ghrelin hormones (5).

If you are reducing carbohydrate intake and experiencing cravings, this can signal a glucose-insulin biochemical imbalance. Supporting glucose metabolism in the gut and liver, along with improving insulin sensitivity through nutrient-dense eating can help you reduce appetite and cravings.

Glucose-Insulin Nutrient Support

- Vitamin B1 Thiamine
- Vitamin B7 Biotin
- Vitamin B9 Folate
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Chromium
- Magnesium
- Vanadium
- Methionine
- Cysteine
- Omega 3 Fatty Acid
- Alpha Lipoic Acid
- Glutathione
- CoQ10
- Allicin
- Fenugreek
- Cinnamon
- Ginsenosides
- Rosmarinic Acid
- Probiotics
- Fiber

METABOLISM BIOCHEMICAL IMBALANCE

"I'm stuck! I can't lose any more weight no matter what I try."

Has this happened to you before? If so, you may have experienced the dreaded weight loss plateau. The first 5 – 10 pounds was effortless to lose but the number on the scale will not budge anymore no matter how many carbs are eliminated or how low of calories consumed. This common scenario among many weight loss dieters typically leads to diet failure or poor compliance with healthy eating. Why keep eating healthy when the results on the scale are discouraging?

Behavior changes such as drinking more water, increasing exercise, and eating smaller meals throughout the day can possibly get you to breakthrough this barrier. However, this may not be enough because you have a metabolism biochemical imbalance.

The Top Metabolism Biochemical Imbalances Causing a Weight Loss Plateau

1.) Metabolic Rate Imbalance
2.) Thyroid Hormone Metabolism Imbalance
3.) Estrogen-Progesterone Hormone Metabolism Imbalance
4.) Gut Metabolism Imbalance

1 Metabolic Rate Imbalance

When we think of metabolism, we usually only think about burning calories as it relates to metabolism. However, this is just one component. Metabolism encompasses a much broader definition because it's the force behind how our bodies function daily. Our metabolism is responsible for all the chemical reactions which happen in the body. Breaking down nutrients, repairing tissue, and regenerating cells are just a few examples of how metabolism is more than just burning calories. As it relates to weight loss plateauing, a poor metabolism or metabolic rate can hinder the body from losing more weight.

There are three main types of metabolic factors in the body:

- **Basal Metabolic Rate (BMR) –** The number of calories a person burns with basic life-performing activities or at rest.
- **Total Daily Energy Expenditure (TDEE) –** The number of calories a person burns each day which includes physical activity and exercise.
- **Thermogenic Effect of Food (TEF) –** The number of calories a person burns each day to digest, absorb, metabolize, and store food.

In losing weight, the goal would be to increase the rate of metabolism, so more calories are burned each day. For both BMR and TDEE, there are various non-dietary factors which influence metabolism. Gender, genetics, height, body weight, fat mass, muscle mass, and exercise are the main contributors to having a high or low metabolism rate from a non-dietary perspective. From a dietary factor, the thermogenic effect of food (TEF), can represent up to 10% of the daily metabolic rate. Just chewing, digesting, and absorbing foods can have a profound impact on calorie burn! Specific foods and nutrients have been shown to boost the thermogenic effect in the body and support protein, carbohydrate, and fat metabolism (6).

Thermogenic Nutrient Support

- Capsaicin
- Curcumin
- Piperine
- Cinnamon
- EGCG
- Vitamin B6 Pyridoxine
- Vitamin B9 Folate
- Vitamin B12 Cobalamin
- Medium Chain Triglycerides
- Probiotics

2 Thyroid Hormone Metabolism Imbalance

Another contributor to a slow metabolism and weight gain are thyroid hormones. In fact, multiple clinical research studies have shown the correlation between thyroid hormone imbalances and a decrease in metabolism rate (7). One of the earliest signs of thyroid hormone dysfunction can be weight gain. Without proper thyroid hormone functioning, metabolism begins to slow down, and weight increases or plateaus. Balancing thyroid stimulating hormone (TSH), thyroxine (T4), and triiodothyronine (T3) is vital in ensuring optimal thyroid metabolism. To support the various thyroid hormones, specific nutrients are required for production and conversion. Without these nutrients, thyroid stimulating hormone cannot be produced or T4 cannot be converted to the active form of T3.

If you have a history of hypothyroidism or have thyroid-related symptoms of constipation, hair loss, irritability, fatigue, weight gain, or cold hands and feet, you may benefit from the following thyroid promoting nutrients.

Thyroid Nutrient Support

- Iodine
- Iron
- Zinc
- Selenium
- Tyrosine
- Vitamin A
- Vitamin D
- Vitamin E
- Probiotics

3 Estrogen-Progesterone Hormone Metabolism Imbalance

The time of the month again for some females can mean bloating, cramping, and water retention. During the normal menstrual cycle, there are dips and peaks of estrogen and progesterone hormone levels. From insatiable cravings, mood swings, and bloating, to a sense of Zen and well-being, estrogen and progesterone hormone metabolism can affect both mood and weight loss throughout the month. It doesn't just have to be during the menstrual cycle there is an imbalance in estrogen and progesterone hormone levels either. For people suffering from consistent high estrogen and low progesterone hormone imbalances, or low estrogen hormone levels because of menopause, the process of losing weight becomes more difficult.

Estrogen hormones cause fluid retention, while progesterone hormones have a diuretic effect and reduce extra fluid in the body. If you experience a couple pound weight gain during your cycle or have high estrogen symptoms such as bloating, low libido, irregular menstrual cycles, PMS, mood swings and headaches with low progesterone hormone symptoms of hot flashes, low libido, headaches, and spotting between periods, there can be an estrogen-progesterone hormone metabolism imbalance causing weight loss plateauing. The need to detoxify excess estrogens, boost progesterone hormone levels, and rebalance estrogen-progesterone hormone metabolism is critical to breaking through the weight loss barrier.

Estrogen-Progesterone Hormone Metabolism Nutrient Support

- Zinc
- Magnesium
- Folate
- Vitamin B6 Pyridoxine
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin E
- Arginine
- Omega 3
- CoQ10
- DIM
- EGCG
- Curcumin
- Resveratrol
- Rosmarinic Acid
- Chaste Tree Extract
- Calcium D-Glucarate
- Wild Yams
- Probiotics

4 Gut Metabolism Imbalance

Lastly, another factor in weight loss plateauing is an impairment in gut metabolism or constipation. There could be multiple factors which contribute to constipation, which are discussed in a later section, but from the standpoint of weight loss plateauing and metabolism dysfunction, constipation decreases the ability for the body to eliminate waste. A proper digestion system eliminates waste from food at least daily, and at times, a few times per day. The buildup of waste in the digestive system can pack on the pounds and the need to support daily bowel movements is needed to break through a weight loss plateau.

If you are experiencing constipation issues, you need targeted nutrients and foods to stimulate bowel movements. Specific foods with laxative fiber and enzymes are known to assist in constipation relief. Prunes, apples, kiwi, figs, pears, rhubarb, sweet potatoes, chia seeds, and flaxseeds are suggested whole foods which support increased bowel movements. The addition of more fiber and enzymes, along with other foods with select nutrients can provide the needed support in regulating bowel movement metabolism and reducing constipation episodes.

Gut Metabolism Nutrient Support

- Iodine
- Selenium
- Tyrosine
- Vitamin C
- Prebiotics
- Probiotics
- Insoluble Fiber
- Magnesium Citrate

BODY COMPOSITION BIOCHEMICAL IMBALANCE

"When I look in the mirror, my skin is sagging, I still have belly fat, and I'm just not toned"

If a person weighed 150 pounds at the age of 20, and then weighed 150 pounds at the age of 60, most likely their body does not have the same shape, even though the pounds on the scale are the same. Losing weight is only one component to weight loss. The type of weight lost is equally important. Losing fat and not muscle is critical in the preservation of lean body mass, toning, and sculpting. The best-case scenario is when you can lose weight on the scale and predominantly lose fat mass. Unfortunately, this isn't always the case during someone's weight loss journey. Usually, the initial weight which tends to drop the pounds on the scale quickly is water weight. This might represent a quick 5-10 pounds weight loss in just a few weeks. Then the difficult process starts where the scale seems to budge in the right direction only slowly. When losing fat and not muscle, it's an even slower process because muscle weighs more than fat. Just because the number on the scale is slowly decreasing, it doesn't mean your weight loss progress is failing, particularly if you are retaining or growing muscle mass.

Losing fat and toning the body requires various biochemical reactions to occur in the body to preserve and retain lean muscle mass. When a biochemical imbalance is present, you may notice you are losing weight in all the wrong places or weight loss becomes more difficult.

The Top Body Composition Biochemical Imbalances Causing Muscle Loss

1.) Protein Synthesis Imbalance
2.) Lean Muscle Hormone Imbalance

1 Protein Synthesis Imbalance

Protein is the foundation to building muscle in the body. During the muscle growth or retention phase, specific levels of protein intake are needed to preserve lean muscle mass. As the body consumes protein, it breaks down in the body into amino acids which are the fuel to continually growing muscle. This anabolic phase of muscle building is critical for a person to retain muscle mass. If a person is in a catabolism phase, or a breakdown of muscle from poor dietary choices, stress, or injury, the muscle begins wasting away.

Various nutrients which support protein synthesis, amino acid metabolism, and oxygenation and blood flow to the muscle are important factors in retaining and growing lean muscle mass.

Protein Synthesis Nutrient Support

- Vitamin B3 Niacin
- Vitamin B6 Pyridoxine
- Vitamin B12 Cobalamin
- Vitamin D
- Leucine
- Isoleucine
- Valine
- Lysine
- Phenylalanine
- Threonine
- Histidine
- Methionine
- Glutamine
- Arginine
- Citrulline
- Creatine
- Carnitine
- Betaine Anhydrous
- Sodium
- Potassium
- Magnesium
- Calcium
- Omega 3
- Calcium Beta-Hydroxy-Beta-Methylbutyrate

2 Lean Muscle Hormone Imbalance

Another contributing factor to losing muscle mass is hormone imbalances. As we age, specific hormone levels begin to naturally decline. Loss of libido, fatigue, poor sleep, and weight gain are all unintended effects of hormone decline. Further, the decline in hormone levels also impacts the ability for the body to retain and gain muscle mass.

With over 50+ hormones in the body, controlling various metabolic functions, it is the role of just a few hormones which assist with lean muscle mass. DHEA (8), Testosterone (9), Growth Hormone (10), and Estrogen (11) hormones are all anabolic or sex steroid hormones which provide foundational muscle growth and fat burning support.

Key nutrients are needed to support hormone production, conversion, and synthesis. Without these nutrients, lean muscle hormones cannot be produced.

Lean Muscle Hormone Nutrient Support

- Magnesium
- Zinc
- Boron
- Alanine
- Arginine
- Glycine
- Threonine
- Fenugreek
- Ginsenosides
- Sulforaphane
- Glutathione
- Omega 3

ENERGY & SLEEP BIOCHEMICAL IMBALANCES

"I'm so tired throughout the day and at night, I can't fall or stay asleep."

Another sabotage to losing weight and feeling better is low energy levels and poor sleep. In fact, these two symptoms are responsible for a multi-billion dollar pharmaceutical, supplement, and food product category. Who hasn't seen energy drinks at the grocery store, or a sleep medication being advertised on television? Unlocking the secrets to more energy and better sleep evades almost every one of us sometime in our lives.

There are many factors which can influence energy and sleep. From a behavioral perspective, a sedentary lifestyle and late-night television watching can lead to poor sleep and low energy. Situational factors can also impact energy and sleep. Daily stress, medical health conditions, and even interrupted sleep patterns result in the continued deterioration of energy levels and sleep quality. Changing behaviors or learning to cope with various situational factors could enhance energy and sleep. But for many people, low energy and poor sleep have a biochemical imbalance factor to it.

The Top Biochemical Imbalances Causing Low Energy & Poor Sleep

1.) Mitochondria Dysfunction
2.) Gut-Brain Dysfunction
3.) Hormone Imbalance
4.) Iron Deficiency

1 Mitochondria Dysfunction

The powerhouse of every cell is adenosine triphosphate (ATP). This cellular fuel is required for many daily metabolic functions in the body and when impaired, it decreases energy production on a cellular level. Initially, a person may not notice slight changes in ATP production, but over time, the compounded effect of mitochondria dysfunction can have a drastic effect on energy.

This reduced cellular energy capacity can have roots in many chronic disorders such as Fibromyalgia (12), Multiple Sclerosis (13), and other inflammatory diseases (14). Depending on the spectrum of mitochondria dysfunction, a person can be in the beginning stages of just being tired and fatigued or at the later stages of an advanced mitochondria-based disorder. Repairing mitochondrial function from excess toxins, infections, and oxidative stress in the body requires key elements. No matter the level of mitochondria dysfunction, the need for specific nutrients to fix cellular energy is required.

Mitochondria Nutrient Support

- Vitamin B1 Thiamin
- Vitamin B2 Riboflavin
- Vitamin B3 Niacin
- Vitamin B5 Pantothenic Acid
- Vitamin B6 Pyridoxine
- Vitamin B12 Cobalamin
- Folate
- Vitamin C
- Vitamin E
- Magnesium
- Cysteine
- Leucine
- Isoleucine
- Valine
- Arginine
- Carnitine
- Glutathione
- Alpha Lipoic Acid
- Resveratrol
- CoQ10
- Curcumin
- Ginsenosides
- D-Ribose

2 Gut-Brain Dysfunction

The balancing of neurotransmitters for sleep, energy, and mental clarity is another required element to improving quality of life. How many people know that the melatonin that is responsible for sleep is actually a neurohormone? And proper serotonin levels, along with specific nutrients are required to produce melatonin naturally? Probably not many people.

The synthesis of melatonin to assist in improving quality of sleep is dependent on optimized functioning of both the gut and brain. Research has demonstrated 70% or more of neurotransmitters such as serotonin are produced in the gut microbiome (15). To optimize neurotransmitters, you must have proper levels of nutrients which synthesize neurotransmitters in both the gut and brain.

Gut-Brain Nutrient Support

- Tryptophan
- Methionine
- Glutamine
- Iron
- Zinc
- Magnesium
- Vitamin B3 Niacin
- Vitamin B6 Pyridoxine
- Vitamin B9 Folate
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Probiotics
- DIM
- Glutathione
- Omega 3
- Fiber
- Medium Chain Triglycerides

3 Hormone Imbalances

Various hormone-related imbalances are associated with chronic fatigue and poor sleep.

- **Low Cortisol Hormone –** Low cortisol hormone levels from excessive stress, also known as adrenal burnout, contributes to chronic fatigue (16).
- **Low Testosterone Hormone –** Low testosterone hormone levels, also known as hypogonadism, contribute to chronic fatigue and poor sleep (17).
- **Low Thyroid Hormone –** Low thyroid hormone levels, also known as hypothyroidism, contribute to chronic fatigue (18).
- **Estrogen Hormone Imbalance –** Estrogen hormone imbalances which are common during perimenopause and menopause contribute to poor sleep and hot flashes (19).

If you are experiencing excessive stress, low libido, weight gain, or hot flashes, you may need nutrients to support hormone balance.

Hormone Balance Nutrient Support

- Iodine
- Iron
- Zinc
- Boron
- Selenium
- Magnesium
- Vitamin B5 Pantothenic Acid
- Vitamin B6 Pyridoxine
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Vitamin E
- Probiotics
- Omega 3
- Tyrosine
- Sulforaphane
- Fenugreek
- Ginsenosides
- Ashwagandha
- Theanine

4 Iron Deficiency

One of the most common overlooked causes of chronic fatigue is iron deficiency anemia. The low levels of iron in the body, or low levels of ferritin which stores the iron in the body, can cause excessive fatigue. Iron deficiency can occur with the loss of blood through menses, injury, or genetic issues.

Iron Deficiency Nutrient Support

- Iron
- Vitamin C
- Vitamin B6 Pyridoxine
- Vitamin B12 Cobalamin
- Piperine

INFLAMMATORY PAIN BIOCHEMICAL IMBALANCES

"I'm constantly in pain and I have no quality of life anymore."

Suffering from chronic headaches, joint pain, muscle pain, and nerve pain can decrease quality of life and lead to unwanted inflammation symptoms. Who has the desire or energy to eat healthy when they're suffering from painful episodes?

The Top Biochemical Imbalances Causing Inflammatory Pain

1.) Chronic Inflammation Imbalance
2.) Neurotransmitter Imbalances
3.) Hormone Imbalances

1 Chronic Inflammation Imbalance

Infections, toxins, untreated injuries, stress, poor dietary choices, and more can all lead to unwanted inflammation in the body. This low-level inflammation contributes to so many medical disorders and symptoms which drastically affect quality of life. Throbbing headaches ruining the day, muscle spasms which affect sleep, and joint pain causing a loss in mobility are a few scenarios of uncontrolled inflammation.

To calm the inflammation in the body, you need to target multiple pathways which turn off the inflammation switch.

Chronic Inflammation Nutrient Support

- Vitamin B1 Thiamin
- Vitamin B2 Riboflavin
- Vitamin B3 Niacin
- Vitamin B6 Pyridoxine
- Vitamin B9 Folate
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Magnesium
- Calcium
- Copper
- Manganese
- Potassium
- Zinc
- Glutamine
- CoQ10
- Curcumin
- Piperine
- Gingerol
- Quercetin
- Boswellia
- Omega 3
- Probiotics

2 Neurotransmitter Imbalances

An imbalance in neurotransmitter brain chemicals is another contributor to pain, particularly the amplification of how we feel pain. Overactive excitatory neurotransmitters of glutamate, epinephrine, and norepinephrine could increase pain levels in the body. These neurotransmitter imbalances are associated with migraines (20), neuropathy (21), and fibromyalgia (22).

To reduce excitatory neurotransmitter levels requires an increase in inhibitory or calming neurotransmitters to balance the overexcitement. GABA, serotonin, and glycine are some of the inhibitory "calming" neurotransmitters which assist in pain reduction. For instance, many times medical providers may prescribe popular anti-depressant selective serotonin reuptake inhibitors (SSRIs) for patients in pain. The serotonin-based medication provides relief from painful episodes which correlate with excitatory neurotransmitter overload.

Another underlying reason behind neurotransmitter imbalances is because of gut microbiome dysfunction. With most of the neurotransmitter production beginning in the gut, the need to restore healthy gut flora and balance is needed.

Specific nutrients have been shown to help reduce inflammation and pain associated with neurotransmitter imbalances.

Calming Neurotransmitter Nutrient Support

- Tryptophan
- Glycine
- Iron
- Zinc
- Magnesium
- Vitamin B3 Niacin
- Vitamin B6 Pyridoxine
- Vitamin B9 Folate
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Probiotics
- Glutathione
- Sulforaphane
- Curcumin
- Piperine
- Omega 3
- Probiotics
- Theanine
- Taurine
- GABA
- Ashwagandha

3 Hormone Imbalances

There is a synergistic effect between neurotransmitters and hormones and in fact, there is a name for this system in the body, the neuroendocrine system. When various neurotransmitters are imbalanced, it has a cascading effect to cause a hormone imbalance and vice versa. Like how other symptoms and obstacles could be associated with hormone imbalances, the same holds true for headaches and pain.

Unfortunately, not many people correlate hormone issues with pain but there is ample evidence suggesting a hormone imbalance can not only cause the pain, but also amplify it. For instance, low thyroid hormone levels are associated with a condition called hypothyroid myopathy. This medical disorder causes muscle pain in the shoulders, back, and pelvis areas (23). Low testosterone hormone levels are characterized by widespread muscle pain (24). Even estrogen hormone fluctuations can cause migraines (25) and correlate with serotonin deficiency issues (26).

Hormone Balance Nutrient Support

- Iodine
- Zinc
- Selenium
- Magnesium
- Vitamin A
- Vitamin B6 Pyridoxine
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Vitamin E
- Probiotics
- Omega 3
- Tyrosine
- Sulforaphane
- Fenugreek
- Ginsenosides

DIGESTIVE BIOCHEMICAL IMBALANCES

"I'm so bloated and I only make a bowel movement maybe every few days!"

Suffering from digestive disorders of constipation and bloating can plague people for years. Every time someone tries a food or eats a meal, the quick belly bloat appears. However, the person is unable to provide relief through a bowel movement because of their inability to go. One day becomes two days and sometimes two days becomes almost a week for some people to make a bowel movement. Even then, full relief is not experienced. The bloating and sense of fullness in the stomach lingers without ever going away. These uncomfortable symptoms greatly impact people's activities, eating habits, and quality of life.

Constipation and bloating have an underlying component to it which needs addressed. However, most people who experience these unwanted symptoms usually only apply temporary band aids for relief. Medications, OTC laxatives, and detox cleanse supplements are popular bowel movement go-to methods. These products provide initial relief, but over time, they can have a diminished effect leaving the person still constipated and bloated.

There are various biochemical imbalances which may contribute to constipation and bloating which must be addressed to provide true relief. Within each biochemical imbalance, specific nutrient deficiencies can be prevalent.

The Top Biochemical Imbalances Causing Constipation & Bloating

1.) Serotonin Neurotransmitter Deficiency
2.) Thyroid Hormone Imbalance
3.) Gut Dysbiosis
4.) Digestive Enzyme Deficiency
5.) Food Sensitivity Inflammation

1 Serotonin Deficiency

Known as the "happy" neurotransmitter brain chemical, serotonin commonly affects a person's mood. Whether they are happy and content or depressed and feeling blue, a serotonin imbalance impacts a person's overall day to day mood. But in recent research, serotonin has now been demonstrated to also affect a person's gastrointestinal system. This would make sense, particularly if 70% or more of neurotransmitters are produced in the gut. Serotonin is primarily produced by enterochromaffin (EC) cells in the GI tract and research has suggested a deficiency in serotonin can lead to delayed gastric emptying or constipation (27).

Serotonin Nutrient Support

- Tryptophan
- Glutamine
- Magnesium
- Zinc
- Vitamin B3 Niacin
- Vitamin B6 Pyridoxine
- Vitamin B9 Folate
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Probiotics
- Glutathione
- Omega 3
- 5-HTP

2 Thyroid Hormone Imbalance

Similar to serotonin deficiency, thyroid hormone deficiency can also affect gut motility. Who would have thought thyroid hormones can have an impact with constipation? Well, they do. Thyroid hormones control many metabolic processes in the body, including certain gut metabolic functions. When there is a deficiency in thyroid hormones, or hypothyroid, this can result in reduced gut motility or constipation (28). Other symptoms you may suffer from because of gut motility dysfunction are heartburn and nausea. Research has also shown a microbiome imbalance could also influence hypothyroidism and even thyroid autoimmune disorders (29). So, is the gut problem causing a thyroid issue or is the thyroid issue causing the gut problem?

The thyroid-gut axis in the body is another angle which needs to be reviewed to understand what could possibly be causing a person's constipation.

Thyroid Hormone Nutrient Support

- Iodine
- Iron
- Zinc
- Selenium
- Tyrosine
- Vitamin A
- Vitamin D
- Probiotics

3 Gut Dysbiosis

Addressing the possible neuroendocrine systems (serotonin and thyroid) impact on constipation is an important element. However, both serotonin and thyroid deficiency issues could be influenced by a gut microbiome imbalance (30). The need to additionally address gut dysbiosis or gut dysfunction should be a priority with you if you are experiencing constipation and bloating.

The gut microbiome is host to billions of organisms; some are harmful while others are protective. Viruses, bacteria, and fungi, along with other species are constantly growing, dying, and evolving within our gut every day. This natural process typically doesn't impact anyone's day-to-day activities unless it becomes dysfunctional. An imbalance between good and bad bacteria in the gut microbiome (31), an overgrowth of bad bacteria in the small intestine (32), and even fungi such as candida (33), can all increase the risk of chronic constipation.

Restoring balance in the gut microbiome, along with eliminating possible pathogenic viruses, bacteria, and fungi through nutrients should be utilized.

Gut Nutrient Support

- Prebiotics
- Probiotics
- Vitamin B6 Pyridoxine
- Vitamin B12 Cobalamin
- Glutamine
- Zinc
- Magnesium
- Curcumin
- Piperine
- Allicin
- Gingerol
- Berberine
- Oleuropein
- Oregano Extract
- Rosmarinic Acid
- Omega 3

4 Digestive Enzyme Deficiency

Another component to constipation and bloating could be related to digestive enzyme deficiency. Without proper functioning of the pancreas, along with other parts of the digestive system, a person may lack the necessary enzymes to break down foods. One of the most common digestive enzyme issues known to most people is lactose intolerance. This is the inability to break down milk sugar from dairy products. To properly digest, absorb, and assimilate foods, our body must break down the foods we eat into smaller components. Carbohydrates, proteins, and fats from foods all require different types of digestive enzymes.

Amylase digestive enzymes assist in breaking down carbohydrates, protease digestive enzymes assist in breaking down protein, and lipase assists in breaking down fats. These are the major digestive enzymes in the body. However, there are other digestive enzymes needed as well. For instance, lactase breaks down lactose from dairy products and cellulase breaks down vegetable cellulose fiber. People who suffer from food intolerances such as gluten intolerance, lectin intolerance, solanine intolerance, casein intolerance, etc...may not have sufficient levels of digestive enzymes to break down the food and as a result, bloating and gut issues are prevalent.

Digestive Enzyme Nutrient Support

- Amylase
- Protease
- Lipase
- Lactase
- Invertase
- Bromelain
- Papain
- Peptidase
- Phytase
- Cellulase
- Hemicellulase

5 Food Sensitivity Inflammation

Lastly, another culprit behind bloating and constipation can be the result of inflammation from food sensitivities. Food sensitivities occur when your body produces IgG or immunoglobulin-G antibodies in response to ingesting specific foods. The overreaction of the immune system to food proteins may trigger inflammation which can slow down gut motility and cause constipation. Additionally, inflammation may impair the gut from properly digesting foods which would cause bloating. Removing food sensitivities out of your dietary plan is the best approach to calming inflammation. You can also add various nutrients to repair the damage from inflammatory food sensitivities.

Food Sensitivity Inflammation Nutrient Support

- Probiotics
- Omega 3
- Quercetin
- Curcumin
- Gingerol
- Zinc
- Glutamine
- Amylase
- Protease
- Lipase
- Lactase
- Invertase
- Bromelain
- Papain
- Peptidase
- Phytase
- Cellulase
- Hemicellulase

NEUROLOGICAL BIOCHEMICAL IMBALANCES

"I just don't feel right in my own body anymore and my mood swings are unbearable!"

People want to feel right in their own body, and they want to take control of how they feel. Situational factors such as relationships, work, and finances can all influence someone's mood. However, there are biochemical factors as well which can either amplify the situational stressor or even be the underlying cause of the person's mood swings.

The Top Biochemical Imbalances Causing Mood Swings

1.) Hormone Imbalances
2.) Neurotransmitter Imbalances

1 Hormone Imbalances

Hormone imbalances could be a top contributor to many types of mood disorders. Cortisol hormone levels impact stress (34), testosterone hormones impact depression and anxiety (35), thyroid hormones control mood (36), and the constant fluctuation of estrogen and progesterone hormones affect cognitive processing (37).

With over 50+ hormones in the body, it's difficult to know which hormone imbalances can be associated with mood swings, even with lab testing. The goal is to naturally support optimal nutrition levels in the body.

Hormone Balance Nutrient Support

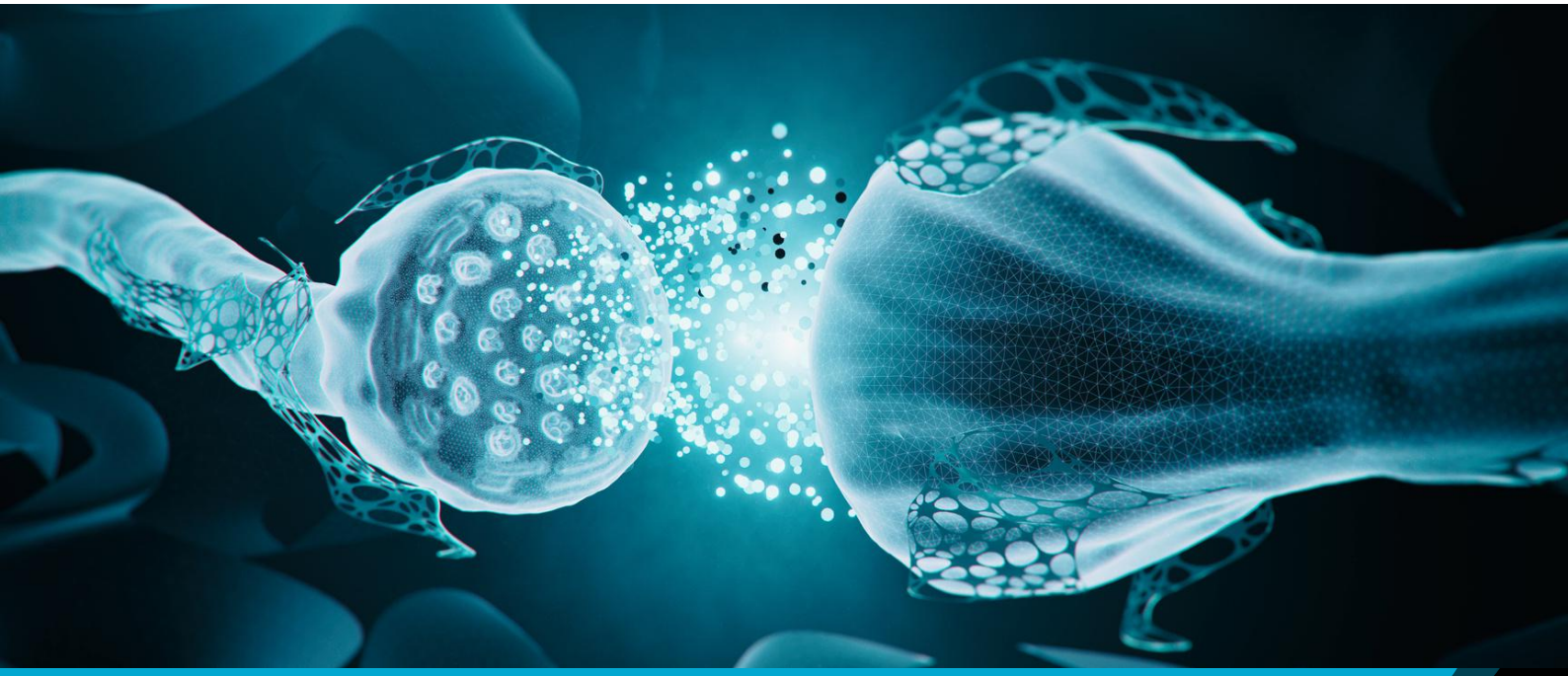
- Iodine
- Iron
- Zinc
- Boron
- Selenium
- Magnesium
- Vitamin A
- Vitamin B6 Pyridoxine
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Vitamin E
- Probiotics
- Omega 3
- Tyrosine
- Sulforaphane
- Fenugreek
- Ginsenosides
- Taurine
- Theanine
- Ashwagandha

2 Neurotransmitter Imbalance

Along with hormone imbalances, neurotransmitter imbalances can also influence mood swings. Through the neuroendocrine system, both hormones and neurotransmitters can impact how someone feels daily. Estrogen hormones have a connection with serotonin brain chemicals on mood and cognition (38). Progesterone hormones and GABA neurotransmitters can influence PMS symptoms (39). Lastly, cortisol hormones and dopamine neurotransmitters effect on brain cognition is in the early stages of research (40). In addition to supporting neurotransmitter production in the brain, it's equally important to focus on overall gut health because many neurotransmitters are produced in the gut.

Calming Neurotransmitter Nutrient Support

- Tryptophan
- Glycine
- Iron
- Zinc
- Magnesium
- Vitamin B3 Niacin
- Vitamin B6 Pyridoxine
- Vitamin B9 Folate
- Vitamin B12 Cobalamin
- Vitamin C
- Vitamin D
- Probiotics
- Omega 3
- Glutathione
- Sulforaphane
- N-Acetyl L-Cysteine
- Curcumin
- Piperine
- GABA
- Theanine
- Taurine



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