



THE HEALING POWER OF ENZYMES

Chapter 12

Revitalize Your
Energy Level

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Revitalize Your Energy Level

TAPPING YOUR LIFE FORCE

Are you happy with your energy level? If your answer is “no,” you are not alone. Stress caused by career pressures, financial concerns, and relationship tensions can take a major toll on our bodies. This is particularly true for the endocrine and immune systems. These systems sense negative changes in our environment and send a corresponding message to the brain. If these two systems are already weakened by enzyme deficiency, the whole body can feel run down and lethargic. As we age, the ability to produce sufficient amounts of digestive enzymes decreases. The lack of enzymes results in indigestion and/or malabsorption problems that can interfere with your sympathetic nervous system, hormones, and your brain.

What is the sympathetic nervous system? This part of our nervous system is responsible for crisis intervention. As an immediate response to danger or other traumatic challenges, the sympathetic nervous system puts body processes into high gear. It stimulates secretions from the endocrine glands, pumping adrenaline into the system while the adrenal glands themselves are releasing elevated levels of epinephrine into the blood stream. The blood vessels constrict and sweating will begin in an effort to keep the body cool while under stress. All this working together is what gives the body its ability to flee or fight. The cost for this extra energy is the slowing down of the heart, lung action, and digestion. This is simply another example of the extraordinary functions our bodies are capable of performing.

If you have been told you have a thyroid problem or you are in adrenal fatigue, then this chapter is definitely for you. To better understand how you got here, let's first understand the system both of these glands belong to.

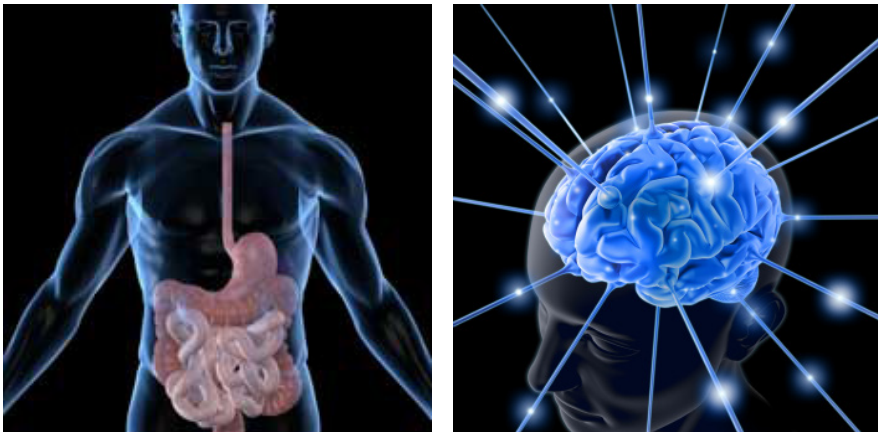
WHAT IS THE ENDOCRINE SYSTEM?

Although we rarely think about them, the glands of the endocrine system and the hormones they release influence almost every cell, organ, and function of our bodies. We really do not tend to think of our other systems such as the

digestive or nervous systems unless we have a problem. But the endocrine system is instrumental in regulating mood, growth, development, tissue function, and metabolism as well as sexual function and reproductive processes.

In general, the endocrine system is in charge of body processes that happen slowly, such as cell growth. The digestive system gets the nutrients to the cell, while faster processes like breathing and body movement are controlled by the nervous system. But even though the nervous system, digestive system, and endocrine system are separate systems, they often work together to help the body function properly.

The foundations of the endocrine system are the hormones and glands. As the body's chemical messengers, hormones transfer information via the enzymes from one set of cells to another. Although many different hormones circulate throughout the blood stream, each one affects only the cells that are genetically programmed to receive and respond to its message. Hormone levels can be influenced by factors such as stress, infection, diet, and changes in the balance of fluid and minerals in blood.



Endocrine Glands: A gland is a group of cells that produces and secretes (gives off) chemicals. A gland selects and removes materials from the blood, then processes them and secretes the finished chemical product for use somewhere else in the body. Some types of glands release their secretions in specific areas. For instance, exocrine glands, such as the sweat and salivary glands, release secretions in the skin or inside of the mouth. Endocrine glands, on the other hand, release more than twenty major hormones directly into the blood stream where they can be transported to cells in other parts of the body.

Once a hormone is secreted, it travels from the endocrine gland through the blood stream to target cells designed to receive its message. Along the way to the

target cells, special proteins (enzymes) bind to some of the hormones. The special proteins act as carriers that control the amount of hormone that is available to interact with and affect the target cells.

For example, if the thyroid gland, which is in charge of your metabolism, has secreted adequate amounts of its hormone (thyroxin) into the blood, the pituitary gland must sense the level of thyroxin in the blood stream and adjust its release of TSH (stimulating hormone) to the thyroid. This is why they look at TSH, T4, and T3 when you have your thyroid blood levels taken. They are looking to see if your pituitary is releasing sufficient hormones in a normal range in order to stimulate your thyroid into producing sufficient thyroxin, and if the thyroxin is being used correctly.

When things go wrong: Too much or too little of any hormone can be harmful to the body. Many clients have come to my office with conditions of fatigue and an overall feeling of unwellness. After the usual interviews and tests and a close look at their medical histories, I recommend a diet to fit their biochemical type and a regimen of supplemental enzymes for them. The supplemental enzymes assist to rebuild the organs and tissues and strengthen all their processes to keep their bodies strong, refreshed, and balanced. After a few weeks have passed, I ask the key question: "Do you feel good?" If the answer is "yes," I know the enzymes are doing their job. If they still say they are not up to the energy they used to enjoy, I then add the glandular formulations to feed and fortify their endocrine system. When we reach the goal set by the client, we begin a reduction in the number of daily supplements, as long as good health and equilibrium remain stable.

Adrenal insufficiency. This condition is characterized by decreased function of the adrenal cortex and the consequent underproduction of adrenal corticosteroid hormones. The symptoms of adrenal insufficiency may include weakness, fatigue, abdominal pain, nausea, dehydration, and skin changes. Medical doctors treat adrenal insufficiency by giving replacement corticosteroid hormones. Here are natural ways to fortify the adrenal and that is in supporting the adrenal with its own glandular and the nutrients that particular gland requires. We have seen wonderful changes in their energy and frustration levels.

Hyperthyroidism. Hyperthyroidism is a condition in which the levels of thyroid hormones in the blood are excessively high. Symptoms may include weight loss, nervousness, tremors, excessive sweating, increased heart rate, increased blood pressure, protruding eyes, and a swelling in the neck from an enlarged thyroid gland (goiter). I have worked with this situation by bringing balance to the system with protease enzymes. Thyroxin is a protein hormone, and many times

the protease in the supplemental digestive formulas, along with the protease enzymes first thing in the AM and before bed, assists in balancing.

Hypothyroidism. Hypothyroidism is when the levels of thyroid hormones in the blood are abnormally low. Thyroid hormone deficiency slows body processes and may lead to fatigue, a slow heart rate, dry skin, weight gain, constipation, and, in kids, slowing of growth and delayed puberty. This is very common amongst Americans. I believe it is so for several reasons. One is the removal of natural iodine in our food sources. Also, due to genetically modified organisms (GMOs) the genetic proteins in our foods create confusion and cannot be absorbed, creating a toxic overload. It makes logical sense to realize some of the problems are due to improper digestion of proteins. However, this is a simpler problem when you treat with thyroxin. I personally appreciate Armour® Thyroid in place of the other medicines, which are just individual T4 or T3, whereas Armour® Thyroid contains T3, T4, and T7.

Type I Diabetes. When the pancreas fails to produce enough insulin, Type I Diabetes (previously known as juvenile diabetes) occurs. Symptoms include excessive thirst, hunger, urination, and weight loss. In children and teens, the condition is usually an autoimmune disorder in which specific immune system cells and antibodies produced by the immune system attack and destroy the cells of the pancreas that produce insulin.

Type I Diabetes can cause long-term complications, including kidney problems, nerve damage, blindness, and early coronary heart disease and stroke. To control their blood sugar levels and reduce the risk of developing diabetes complications, kids need regular injections of insulin. The side effects of insulin cause loss of digits. However, supporting the pancreas with supplemental digestive enzymes with meals and protease between meals has worked for those who suffer with this condition.

Type II Diabetes. Unlike Type I Diabetes, in which the body cannot produce normal amounts of insulin, in Type II Diabetes the body is unable to respond to insulin normally. Children and teens with this condition tend to be overweight, and it is believed that excess body fat plays a role in the insulin resistance that characterizes the disease. In fact, the rising prevalence of this type of diabetes in kids has paralleled the dramatically increasing rates of obesity among kids in recent years.

This is a condition that is driven by the foods we chose to eat, including GMOs. We have had wonderful success with this group of people, from children to adults, through eating the proper genetic diet and taking supplemental digestive

enzymes with meals, proteases between meals, and probiotics at bedtime. Since they can take their own blood-glucose levels, they have an easy validation on the improvements from diet and enzymes.

INSOMNIA

Scientific research shows that those suffering from sleep deprivation or insomnia have some specific symptoms that are not experienced by normal sleepers. These include higher rectal temperatures, higher skin resistance, more constricting of the blood vessels per minute, and more body movements per hour. These characteristics are fine, and even advantageous in many different arenas in the workplace, but they are not conducive to good sleep.

The causes of insomnia may be physical, psychological, or both. During sleep the metabolic rate should decrease approximately ten percent below daytime levels. This drop is due to muscle relaxation and reduced sympathetic nervous system activity. The less relaxed your muscles are, the greater your metabolic rate. Any emotional strain can cause increased muscle tension with a corresponding upswing in metabolic rate. Personal problems and their attendant emotional stress or anxieties can create a domino effect. The less we sleep, the more our bodies are susceptible to illness. Added to this, we have a new anxiety to worry about — our inability to sleep. Insomnia can adversely affect not only our personal lives and our ability to do work, but also our bodies' healing capabilities and energy levels.

Changing eating and sleeping habits easily solves some of the physical causes of insomnia. Caffeine drinks like coffee, tea, and cola speed up the metabolism, making it more difficult to sleep. Sugars have the same effect. Sometimes a softer or firmer mattress or pillows can allow for a more restful night's sleep. Avoiding heavy meals just before bed may also reduce the possibility of insomnia. If you have fibromyalgia, one type of dysfunctional sleep is called the alpha-delta sleep anomaly. As soon as people with FM reach the deep-level sleep, alpha brain waves invade and jolt them back to shallow sleep. Not only are they denied refreshing sleep, but the delta level is when the body does its repair work, chemical replenishment, and the making of and use of growth hormone.

If you have made these adjustments to no avail, I suggest supplemental plant-based enzyme supplementation. This supports your nervous system in general, but now we want to target the sympathetic nervous system. Remember, this is the part of the nervous system that creates increases in energy. The cost for this is the inability to relax into a restful rather than a restless state. Insomnia is another imbalance that has far-reaching effects. When we do not get a proper amount of sleep for our bodies, they cannot heal themselves. One of the reasons

why the elderly often cannot sleep well is because their bodies are becoming more and more metabolic enzyme deficient. Those over fifty do well with an addition of melatonin. Start with a low dose and work up to see which milligram is needed specifically for your need. You can find them anywhere from 1 mg up to 10 mg tablet or capsule. Those over sixty-five tend to take 30 mg of time-released melatonin before bed.

CHRONIC FATIGUE SYNDROME

Chronic Fatigue Syndrome, or CFS, has been referred to as chronic Epstein-Barr virus, chronic mononucleosis, and Icelandic Disease, to name a few. Symptoms include fatigue, nausea, vomiting, abdominal cramping, muscle pain, joint aches, and lack of concentration. Millions of people suffer from one or more of these symptoms. Reports have indicated that more than five million people in the United States have CFS. CFS cannot be diagnosed by standard tests, like urinalysis or blood work. Some medical personnel still will not acknowledge that it even exists, yet they are unable to explain the fatigue or illness that many people describe. Countless books have been written about Chronic Fatigue Syndrome. In every one of them, there is no shortage of radical diets to follow, herbal mixtures, nutrients, and support groups.

CASE HISTORY

I have before me many charts with many similarities. However, Chronic Fatigue Syndrome manifests itself quite uniquely with each case that is documented. Four years ago, one of my clients came into my office with CFS symptoms. Here is her description of how she felt in her own words: *"I haven't felt well for the last 8 months. I was okay for about a year before this, but now I am not able to hold down a regular job. My eyes feel tight and burn, and when they come into contact with water they sting. I have pressure in the head area, and I can't seem to think or function. My throat swells and feels like it is going to close sometimes. I have constant sore throats, and my lymph glands swell in my throat and underarms. My underarms sting when I perspire. Hives are brought on by heat or when I scratch myself. I tend to run fevers. My joints and muscles ache very badly at moments. I have trouble sleeping and wake up tired. I have pains in my chest, in fact when I get up, my right side feels like it is in a knot or swollen. I have a swelling in the liver and gallbladder area and sometimes you can even see it down at the bottom of my ribs. My feet ache most of the time and my hands go numb. I get chilled easily. I go from constipation to diarrhea. It is very easy for me to get short of breath. I have had kidney and bladder infections off and on. I experience PMS and cramps whether I am in my period or not. I have nausea, depression, and ringing in my ears."* She was frightened

and discouraged. Various tests were performed that clearly showed her to be a textbook case. Realizing she had CFS, however, did nothing to help her recovery. She tried every treatment known, but they made no difference.

Did she have CFS? A medical doctor had not diagnosed it, but she certainly had the symptoms. I promised her I would not lie to her, and told her that if she took supplemental enzymes she would not recover immediately. However, if she would follow my suggestions and begin taking plant-based enzymes, I felt certain she would be back on the long road to better health. How would she know this? She would feel the difference in a few days, especially with the nausea. I gave her high potency digestive enzymes with her meals. She was on 330,000 units of protease five times a day, including between meals. Within the first 21 days she felt a marked improvement in controlling her headaches, nausea, vomiting, sore throat, muscle pains, and joint aches. The second 21-day period, she was working more hours per week at her job, and her diarrhea and constipation problems became balanced. Her chest pains disappeared and the swelling in her lymph nodes had noticeably reduced. Within 9 weeks she was working full-time again. Up to this day, she is doing very well and living a full life. She cannot eat any junk food or drink alcohol without suffering ill effects, but she has gained control of her life. I treated her case over 4 years ago, and this young woman still uses enzymes and stays well.

On Thursday, July 17, 1997, Dr. Robert Suhadolnik and his research team at Temple University School of Medicine-Philadelphia reported that studies of patients with Chronic Fatigue Syndrome had led to the identification of a new human enzyme.

This *new enzyme* has lower molecular weight than the normal enzyme found in the viral pathway in which this protein is active and may explain common observations in patients with CFS. CFS patients have an inability to control common viruses and an inability to maintain cellular energy. According to Dr. Suhadolnik, the viral pathway known as the 2-5A Synthetase/RNaseL antiviral pathway may control both processes. He further stated: "This new enzyme in CFS may not function as well as the normal RNaseL found in healthy people. It may explain why CFS patients' bodies have a hard time maintaining the energy necessary for cellular growth."

As with any autoimmune disorder, dysfunction, or imbalance, I give the same regimen of supplemental enzymes supported by a high dosage of protease. I believe in feeding and fortifying the endocrine and nervous systems while naturally detoxifying the body. With supplemental enzymes, all these things are possible. The endocrine system (the glands that control all hormonal secretions), the nervous system, and the immune system must all be addressed. Because they

all function on enzymatic action, I know of no better way to support them than through the use of enzyme supplements. Plant-based protease has a wide range of proteolytic activity. This means the body uses it where and when necessary.

HOW TO BOOST YOUR BRAIN ACTIVITY

Fatigue can be mild in some clients, incapacitating in others. One type of fatigue has often been described as “brain fatigue” in which clients are totally drained of energy. Remember, the digestive system and the brain work together. Sometimes the patients are too tired to remember, let alone function at the moment. They tell me their brains are not functioning. Healthy brain activity requires healthy nerves, a powerful endocrine system, and a steady supply of oxygen and glucose. These requirements depend on a properly functioning digestive system. As we age, our bodies produce fewer hormones and chemicals critical for memory function. While memory loss in the elderly can be attributed to other sources, proper enzyme supplementation can help to fortify and restore the efficient operation of major organs. Insufficient exercise and inappropriate combinations of medication do cause memory loss in some users as a side effect. However, maintaining a proper balance of enzymes in our bodies can renew production of memory-enhancing substances. The results can be very impressive. Memory loss can be significantly reduced and often halted altogether. The big lesson here is that it is much easier to prevent age-related memory loss than it is to restore it.

MYOFASCIA / CHRONIC FATIGUE / FIBROMYALGIA

Myofascia is a thin, almost translucent film that wraps around muscle tissue. It is the tissue that holds all the other parts of the body together. It gives you shape and supports all of the body’s musculature. You can see myofascia if you cut up a fresh chicken. It is the thin, sticky, somewhat filmy material that wraps around the muscle tissue. It wraps around muscle fibers, bundles of fibers, and the muscles themselves, and then goes on to form tendons and ligaments. For people with fibromyalgia syndrome (FMS) and/or myofascial pain syndrome (MPS), the myofascia takes on a new importance. Tightening and thickening of the myofascia occurs in many cases of FMS and/or MPS. If both of these conditions are present, this tightening causes more than double the trouble. When the myofascial tissues become thickened and lose their elasticity, the neurotransmitter’s ability to send and receive messages between the mind and body is damaged, and the communication between the mind and body is disrupted. Myofascia, then, may well be the key to what is wrong with FMS/MPS people. In myofascia, there is a material called ground substance. This material can exist in a solid, semisolid, or fluid state. When ground substance changes from a liquid to a gel, the myofascia tightens, and it is difficult to get it to reverse to a liquid state again without intervention.

MYOFASCIAL TRIGGER POINTS

Trigger Points (TrPs) are found as extremely sore points occurring inropy bands throughout the body. They can also be felt as painful lumps of hardened fascia. The bands are often easier to feel along the arms and legs. If you stretch your muscle about two-thirds of the way out, you might be able to feel them. Sometimes the muscles get so tight that you cannot feel the lumps, or even the tight bands. Your muscle feels like “hardened concrete.” TrPs can occur in the myofascia, skin, ligaments, bone lining, and other tissues. They can be caused by a surgical incision, as is often the case with abdominal surgery. You have probably never heard of TrPs, yet they are quite common. Each specific TrP on the body has a referred pain or other symptom pattern that is carefully documented in the Trigger Point Manuals.

The first time I opened the Trigger Point Manuals (*Myofascial Pain and Dysfunction: The Trigger Point Manual, Vol. I & II* by Travell M.D. and David Simmons M.D.), I was dumbfounded. After being told for so many years by medical experts that the pain patterns I described did not and could not exist, seeing them illustrated in a medical text brought a flood of emotions. I felt so relieved that I cried. I felt validated. Then, as the truth started to hit home, I started to get angry. Why didn't these “experts” have knowledge of Travell and Simmons' work? Why hadn't I learned about these texts in medical school? Most specific pains commonly attributed to FMS are actually from trigger points. TrPs seem to form throughout life as a response to many things that happen to our bodies — overuse, repetitive motion trauma, bruises, strains, joint problems, etc. Pain creates a neuromuscular response, and the muscle around the pain site tightens, “guarding” the hurt area.

When muscles are in a state of sustained tension, they are working even if you are not. A working muscle needs more nutrition and oxygen and produces more waste than a muscle at rest. This creates an area in the myofascia starved for food and oxygen and loaded with toxic waste — a trigger point.

Dr. Janet Travell in her autobiography *Office Hours: Day and Night* explains how dizziness, ringing of the ears, loss of balance, and other symptoms can all be caused by TrPs in the side of the neck, in the muscle group called the sternocleidomastoid (SCM) complex. This muscle has many functions, one of which is to hold your head up. Receptors in the SCM complex transmit nerve impulses, informing the brain of the position of the head and body in the surrounding space. With TrPs, the receptors lie — what they tell the brain is not what the eyes tell the brain.

Developing secondary and satellite TrPs can give the false impression that the MPS is a condition that will steadily worsen with time — that it is progressive. But

MPS is not progressive. With the proper intervention, these trigger points can be broken up and eliminated.

FMS is, among other things, a systematic neurotransmitter deregulation with many biochemical causes. There are other problems as well, but they are all systematic in nature, such as the alpha-delta sleep anomaly. Myofascial Pain Syndrome, however, is a neuromuscular condition. MPS happens because of mechanical failures — the mechanics of physics, not biochemistry. Due to the nature of trigger points, some of the symptoms may seem to be systemic, but they are not. Initiating events, such as repetitive motion injury, trauma, and illness, can start a cascade of TrPs. The protease that I have blended has shown to assist with this along with general inflammation.

FMS/MPS COMPLEX

People with the FMS/MPS Complex face more than just two sets of symptoms. Today, researchers are realizing that FMS and MPS not only occur together, but also reinforce each other. Therefore, physical therapy and all other forms of treatment must proceed carefully. Any treatment regimen will be more complicated and less successful than if the patient had only one of the two conditions. Only 20 percent of FMS cases have a known triggering event that initiates the first obvious “flare.” During a flare, current symptoms become more intense, and new symptoms frequently develop. In FMS/MPS, a chronic pain condition exists, and with many different symptoms. The trigger points of MPS are all magnified. The body’s requirement for protease and lipase plant-based enzymes is greatly intensified. The necessity for supplemental enzyme therapy is essential for restoration. Systemic protease enzymes taken between meals prevent chronic inflammation. I suggest taking these supplements often during the day.

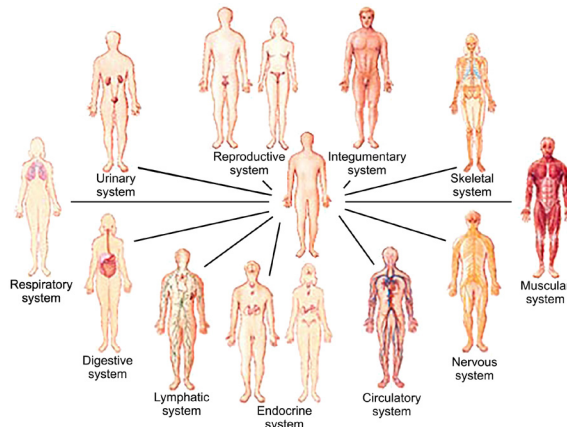
CONCLUSION

Because this chapter is about energy I thought we should spend some time talking about how energy is produced. Without going into a great deal of biochemistry, I am going to make it a simple step-by-step picture. It takes a huge energy investment on the body’s digestive system to make ATP (cellular energy). How our food is used to synthesize ATP is one of the great discoveries of modern biology because it comes from the food we digest.

- Our cells contain mitochondria, the tiny bodies where ATP is produced.
- Mitochondria consist of two sacks made of membrane.
- The inner sack is ruffled or rumpled, not as smooth as the outer sack.

- Sugar or glucose from food is a fast energy, but our fat foods contain much more energy than glucose.
- They both can be found in between the ruffled and smooth sack in the mitochondria.
- In this area they are disassembled in a way to release their chemical bond.
- This energy embeds the membrane, pushing hydrogen ions into the ruffled inter-membrane sack as if it were a balloon. It is like blowing up a balloon and inserting it into the inner membrane since this is where oxygen plays a role.
- Oxygen has a powerful attraction for electrons. Think of the electrons like a stream of water, and what oxygen does is like lowering the water in the stream, allowing it to fit.
- Oxygen does this same thing to the electrons when they combine.
- If the oxygen was not involved, the mitochondria still could make around two ATP from the food source. But with the use of oxygen, they can produce around thirty-six ATPs from each energy molecule.
- Oxygen's powerful pull on electrons allows it to push in hydrogen ions.
- The inner ruffled membrane is full of enzymes called ATP synthase.
- Synthase enzymes create a hole through which the hydrogen ions can escape, giving enough energy to create the bonds of ATP. This is how our ATP battery is continually recharged.
- But now get this amazing thing — the leftover carbon atoms link with oxygen and leave the mitochondria by going into the blood stream where they are taken to the lungs for you to exhale. Oxygen in; waste out.

It is obvious to me that when you do not eat healthy, or even if you do but cannot properly digest your food, you will be fatigued.





Dr. DicQie Fuller has enjoyed and been blessed by her three decades as a clinician, educator, researcher, and author. Although, no longer practicing on a daily basis, Dr. Fuller spends a great deal of time answering questions from health practitioners and those who read her books and website where she continues with information on health topics and enzyme therapies.

Dr. Fuller has earned two Ph.Ds, one in Health Science and the other in Dietetic Nutrition, and also holds a degree as Naturopathic doctor – Heilpraktiker from Germany Kneipp Heilpraktiker Akademie.

Her passion in the last 40 years has been in the realm of Enzyme Therapy along with Biochemical Individualism and their use in bringing balance to the body whether involving our health, thoughts, or harmful beliefs.

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