

# RAINBOW SERPENT



## RISING

Exploring human  
energy and endocrine  
anatomy  
Todd Mangum MD



# RECLAIMING THE CADUCEUS

## THE CHAKRA SYSTEM

The caduceus, or what is better known as the medical symbol, with its central staff, entwined snakes, and feathered wings on top, looks uncannily similar to the subtle energy system described by the ancient Hindus of India. In this system, the seven chakras or energy centers are aligned along a vertical column which parallels the spine. Two more subtle energy currents form helical spirals crossing at each chakra, ending in the crown which is symbolized by a lotus with 1000 petals. It is through this system that the kundalini, or energy of the coiled serpent, is said to rise as one progresses towards enlightenment.

You may be surprised to learn, however, that the caduceus is not the original or technically correct medical symbol. This symbol has been confused with the staff of Asclepius which is forked at the top and encircled by only one serpent not two. Asclepius is the Greek God of medicine. He was killed by a thunderbolt from Zeus because Zeus was afraid that such a skillful physician may make all humans immortal.

The caduceus is, by definition, a banner or staff carried by a herald. Definitions of a herald include that of a messenger or announcer, or one that precedes or foreshadows. In war, the caduceus was often carried as a banner of peace and conferred immunity from harm on the one who carried it. This symbols' correct association is as the staff of Hermes, messenger of the Gods. It originally had little or nothing to do with medicine.

The caduceus, like all symbols, is rich with meaning and layered with interpretation. Symbols often have a life of their own. Like all living things they grow, evolve and change through time. Studying symbols can uncover their history and origins, and illuminate their present meaning. Meditation upon them, however, may reveal their secrets lying dormant within like germinal seeds waiting to birth the next generation.

Whether by mistake or design, the appropriation of the caduceus as a medical symbol at the deepest level may not be one of confusion, but instead one of clarification, perhaps a premonition. The staff of Asclepius may symbolize western medicines' past. With its singular serpent, it strongly portrays western medicine's unbalanced approach to health. It is the caduceus, however, when fully understood and illuminated that tells where medicine is heading. With its symmetrical serpents, it has been heralding, for all those willing to see, an

emerging paradigm of balance; one which unifies both east and west, spirit and matter, intuition and logic, and one that is allowing an organic philosophy to infuse our overly mechanical one.

We will journey through human energy and endocrine anatomy using the symbol of the caduceus, interwoven with the chakras, as a map. The chakras are a metaphysical system that diagrams the interfaces and interrelationships between the various aspects of our multidimensional selves. The word chakra itself means spinning wheel or disk. In humans the chakras represent the energy centers, which compose our subtle anatomy.

Chakras are vortices of energy which act as interfaces between our physical bodies and larger cosmic forces. The chakras emerge from the interaction of matter and energy much like a whirlpool emerges in a drain from the interaction of the water and the force created by the spinning earth. They could also be seen to emerge in the way the energy of sunlight interacts with the matter in a prism to form a rainbow.

The chakras act as transformers between the opposing forces or energy currents of manifestation and liberation. Modulating the frequencies of each, making slower and denser with each step the downward manifesting current and faster and more rarefied the upward liberating one. A blockage in any of the chakras may result in an inability to either expand our consciousness or to manifest our desires.

Each chakra has a specific nerve ganglion or network associated with it. These ganglia could be seen as antennae which receive and transmit information relevant to the areas governed by each specific chakra. Each one of the seven major centers of the body have multiple associations, from the purely physical like endocrine glands and nerve ganglia to different emotional realms and states of conscious awareness. Each also has a specific color, sound, element and food.

Anodea Judith, whose excellent books elaborate extensively on the chakras, describes them as “floppy disks” that contain programming about how to handle various aspects of our lives. These disks, in turn, interface with the hardware of our physical bodies, and result in our experiences of the physical, emotional, mental and spiritual worlds. She goes on to describe a basic “program” for each center. I will use her work as a template upon which to build, adding more specific and practical medical information, especially as it applies to endocrine or hormonal system from the adrenals on up to the hypothalamus. I encourage all those interested in more in depth study to purchase her books, *Wheels of Life* and *The Sevenfold Journey*.

As with any system this old, there are many interpretations as to exactly what characteristics and anatomical parts belong to any given chakra. Also in comparing diverse systems, no two correlate exactly one to one. For instance, it is impossible to superimpose the concept of the liver and kidney energetic networks of Chinese Medicine upon the organs of the same names in Western Medicine. They speak two very different languages and absolute translations lead to miscommunications. The same holds true when comparing glandular anatomy and the chakric system. Although many have assigned one gland to one chakra, this doesn't always quite fit and leads to variations found from one description to another. Although these systems do overlap, trying to squeeze one completely into another harms them both. It is often the difference between thinking anatomically as opposed to energetically. Both are right. What is given below is a guideline, not gospel, about some of the associations.

# CHAKRA ONE



**Mūlādhāra**

## SURVIVAL AND SECURITY

**Location:** Near the base of the spine, in the perineum.

**Governs:** Our understanding of the physical world.

**Main issue:** Survival and security.

**Externalizes:** As the adrenal gland.

**Element:** Earth.

**When balanced:** We feel grounded.

**Color:** A harmonic of **RED**.

**Key words:** Matter, body, home, family, food.

**Influences:** Our feet, knees, legs, bones, large intestine and rectum.

**Deficiencies:** Will manifest as an inability to draw to oneself the material things needed for survival.

**Excess:** Hoarding, inactivity, obesity, fighting, conquests and warmongering.

**Imbalances:** Will manifest as hemorrhoids, constipation, sciatica, fibromyalgia, chronic fatigue, and knee and feet trouble. Our emotions will be dominated by fear, panic and anxiety.

If this center is balanced, we will have what is needed, we will feel safe and secure. Until this one is balanced and its issues tackled, we will find it hard to focus our attention elsewhere. If we are always in a crisis or survival mode, we will have little energy to devote to other areas of our life. It makes little difference whether the threats to our survival are real or just perceived; both situations trigger the adrenals to respond.

The adrenal glands lie atop the kidneys and are actually two glands in one, the adrenal medulla and the adrenal cortex. The adrenal medulla is responsible for our ability to respond instantaneously to any stress. This part of the gland releases adrenaline. We have all felt this response upon being frightened; when our heart beat increases, muscles tense, palms sweat, and we become hyper alert and wide awake. At this point we are able and ready to respond to ensure our survival. The adrenal cortex secretes the steroid hormones like cortisol, also called hydrocortisone, aldosterone, and DHEA. These hormones mediate our long term response to stress by managing our blood sugar level and fluid balance among other things. The adrenal cortex also produces a little testosterone, estrogen, and progesterone in both men and women.

Recognized Western medical diseases of the adrenals include one called Cushing's syndrome which is an excess of cortisol. The other is Addison's disease, also called adrenal insufficiency, which is a deficiency of both cortisol and aldosterone. Both of these are extensive imbalances of these glands and require prompt medical attention. From the conventional medical standpoint the glands are either perfectly healthy or they present life threatening situations. Western medicine fails to understand that areas exist outside of normal which do not yet constitute medical emergencies. Many people suffer from adrenal exhaustion without complete failure of the gland. Relative adrenal excess can also exist which doesn't yet qualify as Cushing's syndrome.

Skipping meals, inadequate protein and too much sugar or junk food, insufficient sleep and relaxation, prolonged infection, trauma, chronic pain, severe allergies, and any ongoing toxic exposure all rely heavily on the adrenals to compensate for these stresses. Symptoms and signs of adrenal dysfunction include fatigue, nervousness, anxiety, unrefreshing sleep, poor recovery from illness or frequent illnesses, hypoglycemia, low blood pressure, low body temperature, progressive exhaustion with physical exertion, low physical reserves in general, and sleep disturbances.

Of course there are other possible causes for all of these problems, but if you are plagued by very many, having an exam done to evaluate your adrenals may be helpful. Conventional western medical tests will reveal little unless the condition is extreme. More relevant and progressive tests exist which evaluate the saliva for the adrenal hormones cortisol and DHEA. Many practitioners are starting to use these tests. If your primary care practitioner is unfamiliar but interested in learning about these tests, two companies performing the tests provide excellent information. Diagnos-Techs, Inc. in Seattle (800)878-3787 and Genova Diagnostics Lab in North Carolina (800)522-4762. Treatment can include the use of both DHEA and cortisol but these should be done only with proper guidance because these hormones function within optimal ranges and more is not necessarily better.

Steps you can take at home to balance the adrenal will include addressing all the issues of which relate to the first chakra. Examine the relationship you have with the Earth and your body. Do you view them as prisons from which you will be set free at death. Look around your house. Is it a home? Your adrenals will not rest until you feel safe and secure. Of course, a healthy diet which stabilizes the blood sugar through proper balance of protein and carbohydrates is of paramount importance. Minimizing stimulants like caffeine is essential since these by themselves can create the panic state. A well balanced multivitamin is invaluable to offset the deficiencies created by chronic stress. Additional vitamin C and B5 (pantothenic acid) are especially helpful.

Herbs known as adaptogens play a special role in helping us respond to stress. These include the well known herbs like Panax ginseng and Siberian ginseng. As the name implies adaptogens help us adapt. They are unique in that they can calm an overactive adrenal system, or rejuvenate and energize an underactive one. In other words, to help us stay in balance. Licorice root is a specific for low adrenal function, and contains substances which are very similar to the adrenal hormone aldosterone. Aldosterone acts to help the body retain fluids by retaining sodium. This is why one has to be cautious if high blood pressure is a concern. Chinese medicine has a large repertoire of formulas to address adrenal imbalances. These will often include the kidney qi tonics and herbs to strengthen kidney yin or yang. A Chinese medical diagnosis is necessary to use them appropriately.

Additional ideas to reduce stress and balance the first chakra include getting a massage or any body work, planting a garden, taking a yoga class, getting a colonic and exercising. To improve the quality of our terrestrial home, buy organic, recycle. The greatest assistance of all, however, is always available from the Earth herself. A simple exercise to enhance this connection is to walk barefoot outside in contact with the ground. Walk around and really feel that you are always supported. Next let a tree find you and sit with your back against the trunk. Feel how it's anchored, its roots reaching deep into ground. Just being with the tree with a sense of appreciation is enough. Sit back and relax.

## CHAKRA TWO



**Svādhiṣṭhāna**

## PLEASURE, SENSATIONS AND SEXUALITY

**Location:** In the pelvis.

**Governs:** Our sexuality and desires.

**Main issue:** Involves our ability to experience pleasure and sensation, especially as these relate to our sexuality.

**Externalizes:** As the ovaries in women and the testicles in men.

**Element:** Water.

**When balanced:** We feel sensuous.

**Color:** A harmonic of **ORANGE**.

**Key words:** Fluidity, change, polarity, movement, sensation and emotion.

**Influences:** the sacrum, pelvis, lower abdomen, genitals, gonads, prostate, uterus, kidneys and bladder.

**Deficiencies:** Manifest as an inability to derive pleasure through the senses, a fear of sexual intimacy, or a belief that earthly sensual pleasure is somehow evil and should be denied.

**Excesses:** Lead one to seek pleasure in addictive ways.

**Imbalances:** manifest physically as impotence, frigidity, any gynecological problem, PMS, prostatitis, lower back pain especially at lumbosacral joint, urinary tract infections and cancers of any associated structures.

Chakra two, the sacral chakra, is the source of our passionate emotions and embodies our innate inner wildness. When this wildness has been repressed we will often seek to destroy its external counterpart, wilderness. For it is too painful to have mirrored back to us from nature the freedom and beauty that we have denied within ourselves. Where this wilderness once was we construct strip malls, amusement parks and zoos, so someone else can sell back to us inferior imitations of our intended birthright.

Emotions are the source of our indomitable power. Emotions, like rivers, are literally Energy in Motion which when damned, with no outlet, stagnate and build up pressure eventually exploding and damaging everything within their thwarted paths .

When the second chakra is balanced, one has a healthy relationship to pleasure, neither denying nor overindulging in it. The body will be supple, with fluid, smooth movements.

Emotions will flow like those of a small child, seamlessly moving from anger to joy to fear to sadness without judgment, restriction or depression

The endocrine glands governed by second chakra are the testicles and the ovaries both of which produce androgens, estrogens and progesterone. Both men and women suffer from imbalances and insufficiencies of these hormones. A monthly menstrual cycle and the bells and whistles of menopause make the hormone related problems experienced by women much more obvious than those experienced by men.

The equivalent of menopause in men is called andropause. Andropause is the result of declining levels of class steroid hormones called androgens. Like the estrogens, which are an ensemble feminizing hormones, androgens are a medley masculinizing hormones. Of the androgens, testosterone is unquestionably the most notorious.

Testosterone is also an anabolic steroid hormone which means it promotes the building of bone and muscle. It also positively impacts ones mood, energy level and sense of well being. It is most renowned for its powerful effects upon libido and virility. DHEA and androstenedione are also androgens but are less potent ones.

Testosterone begins to decline in men usually sometime in their forties or fifties. Compared to the hormonal roller coaster ride of menopause, andropause is often an uneventful and slow but steady hormonal downward slide. Because of this it is often missed.

Symptoms of testosterone deficiency are numerous and include fatigue, depression, apathy, diminished mental acuity, loss of sexual function and desire, decreasing muscle mass and increasing fat. Low testosterone also results in a loss of one's resilience, flexibility and endurance. As testosterone declines joint aches, muscle pains, stiffness and risk of injury increase. Both men and women of any age may experience problems related to imbalanced levels of not only testosterone but of estrogens and progesterone as well.

Estrogens refer to an entire class of hormones some of which occur naturally and many of which do not. This critical distinction is often blurry to both modern medicine and the media as well. Estrogens promote secondary sexual development in women. Estrogens are more dominant in the first two weeks of a woman's menstrual cycle and prepare her body to get pregnant. The prominent estrogens in women are estradiol, estrone and estriol. Estradiol is the most potent of these hormones and the one most likely to be prescribed to menopausal women. Even estradiol has proven to be problematic because it has been prescribed in isolation or with Provera. Neither of these regimens provides the proper hormonal balance.

Progesterone is not the name of a class of steroid hormones like estrogen is, but is a single specific hormone. Progesterone promotes gestation, in other words it maintains a healthy pregnancy, and thus its name pro-gest-erone. Progesterone's other beneficial effects include, protecting against fibrocystic breasts, acting as a natural diuretic, helping burn fat for energy, protecting against endometrial and breast cancer and protecting against and even reversing osteoporosis. Progesterone acts to both balance and enhance the effects of estrogen.

Labeling estrogens bad and progesterone good would be as ridiculous as labeling the brake in your car good and the gas pedal bad. One without the other would either be a disaster or a standstill. The balance between these two hormone classes is as important as their actual levels. This applies to both hormones generated internally and those acquired through replacement therapy.

Too much estrogen relative to progesterone creates a host of problems which include



weight gain, PMS, endometriosis, uterine fibroids, breast tenderness, headaches, leg cramps, gallstones, high blood pressure, blood clots, nausea, fluid retention, and an increased risk of endometrial and breast cancer. Too much progesterone relative to estrogen causes its own set of problems, which include depression, fatigue, somnolence and breast tenderness as well.

Decades of using synthetic versions of testosterone, estrogen and progesterone in variety of inappropriate ways combined with some very faulty reasoning has generated a plethora of modern myths which do not apply to balanced and biologically appropriate hormone treatments.

One such myth is that testosterone is very hard on the liver and quite dangerous. If this were true, our hospitals would be full of virile young men in their teens and early twenties as their testosterone peaks. Conventional medical doctors have known for decades that progesterone counters the negative effects that excessive estrogens can cause throughout a woman's system. With consistent use of inappropriate hormones like Provera, however, this knowledge dwindled to the myth that progesterone only protects the uterus and is therefore unnecessary if a woman has had a hysterectomy.

Luckily, many options are available for both men and women today besides choosing between inappropriate hormones or none at all. Bioidentical estrogens, progesterone and testosterone are now available from not only compounding pharmacies but conventional ones as well. Bioidentical is the term that most accurately describes these hormones. Since they are synthesized in a lab from wild yam or soy they are not, technically, all natural. Unlike conjugated estrogens and Provera, however, which are also derived from soy or wild yam, bioidentical hormones are exact replicas of those found in humans. Premarin on the other hand is all natural but is far from bioidentical for women.

A few carefully selected bioidentical hormones can potentially treat numerous diseases as well as provide a variety of side benefits instead of side effects. Treating the plentiful branches of a few fundamental imbalances with numerous pharmaceuticals clearly benefits someone else besides the patient. Working with an educated practitioner who knows what tests to order and how to interpret them will increase your chances of receiving an effective treatment.

To keep a healthy hormonal balance eat organic food whenever it's available. Many pesticides are xenoestrogens. Xenoestrogens, which are manmade chemicals with potent estrogenic properties, are endocrine disruptors which negatively impact both the levels and the functions of numerous hormones. They are deleterious to almost every creature on earth. Stress, nutritional deficiencies, disturbed or deficient sleep and obesity also negatively impact hormonal levels.

For women, foods containing phytoestrogens like soy can counter some of estrogen's stimulatory effects. Many herbal preparations have hormonal stimulating and balancing properties. For men, saw palmetto berries prevent the conversion of testosterone into a hormone known to promote prostate problems and male pattern baldness.

Other ways to maintain a healthy hormonal flow include exercises and activities to maintain a vibrant second chakra. Focus on yoga postures that free up the pelvis like pelvic rocks and hip circles. Spend time in and around water. Drink a lot of it. Sit by a river watching its grace and power. Go to the ocean and let the waves baptize you. Take a bubble bath by candlelight. Go dancing alone or with someone you love. Spend time in nature.

# CHAKRA THREE



Maṇipūra

## PERSONAL POWER

**Location:** in the solar plexus or upper abdomen.

**Governs:** our production and utilization of energy especially in relation to sugar metabolism and digestion of food.

**Main issue:** involves our personal power or will.

**Externalizes:** as the pancreas.

**Element:** fire.

**When balanced:** we feel powerful.

**Color:** a harmonic of **YELLOW**.

**Key words:** sun, warmth, metabolism, energy, control, transformation and authority.

**Influences:** the stomach, small intestine, liver, gallbladder, spleen, pancreas and lumbar spine.

**Deficiencies:** manifest as an inability to set boundaries, express anger appropriately and powerlessness.

**Excesses:** appear as rage, domination and violence.

**Imbalances:** manifest physically as anorexia, bulimia, hypoglycemia, diabetes, pancreatitis, abdominal pain, hepatitis, ulcers, gastritis, digestive disturbances including indigestion, heartburn, gas, bloating, nausea and vomiting, malabsorption and diarrhea.

Through the third chakra we begin to access the astral planes which are simply more subtle frequencies of energy than are experienced through our five senses alone. This center is receptive to the impulses that inform our “gut instinct”, that way of knowing without knowing why. Through the third chakra we develop our courage determination and will. It is said that someone who is courageous and willing to take risks we say has allot of guts.

Most institutions in our society stifle the development of a strong feisty questioning will. Obedience and conformity are stressed in our schools, businesses, most religions, our government and the military.

Sadly, we're bombarded with messages that tell us our feelings, plucky emotions and instincts are dangerous, irrational and unreliable. Our response is to disconnect ourselves from them; once disconnected we're easily manipulated.

If someone asks you how you feel and you say I think I feel such and such, you're disconnected. We don't think our feelings we feel them.

Any time we try to exert control in our lives the third chakra will experience the stress especially when unresolved anger and frustration are involved. This energy will be experienced as the "butterflies" in our stomach especially when we are nervous. Often these situations will involve what we just can't seem to stomach.

This is also the center through which we get "hooked" or try to "hook" others. Everyone has experienced the feeling of being drained following some interactions with certain people. These people have literally tapped into our solar plexus in an attempt to feed their own depleted reserves or to manipulate a situation. We may have also attempted to force them to follow our will. In either case exhaustion is often the end result.

Many children suffer chronic stomach aches where no organic cause can be found. Further examination will often reveal an ongoing power struggle in which the child is able to gain some degree of control over his or her environment through these symptoms.

When the third chakra is balanced we will feel confident without having to be controlling and our metabolic fire will burn brightly providing us with adequate stamina and warmth.

The endocrine gland influenced by the third chakra is the pancreas which secretes the hormones insulin and glucagon. Insulin is secreted in response to an elevated blood sugar or glucose level. It stimulates the removal from the blood stream of glucose, fats, and amino acids in order to store them within the cell. When it functions properly it helps maintain lean body mass. In excess insulin increases hunger, inflammation, mental confusion and fat formation. Glucagon is secreted in response to a low blood sugar. It mobilizes the release of glucose, fats and amino acids from storage to be used as energy. In proper amounts it decreases hunger, increases alertness and mental clarity, promotes tissue healing and reduces body fat. Together insulin and glucagon maintain a stable blood sugar.

Diabetes is diagnosed when blood sugar levels exceed specific limits. Although type I and type II diabetes both cause high blood sugars, they are vastly different disorders. A deficiency of insulin causes type I diabetes and requires lifetime replacement of the hormone.

Type II diabetes results from failing to properly respond to insulin, not from an insulin deficiency. This failure is called insulin resistance. People with type II diabetes have a fine tuned metabolism that cannot adequately process large amounts of food which cause rapid and extreme elevations of one's blood sugar. The body responds to this excess by producing ever increasing amounts of insulin in order to regulate blood sugars. Initially it is the repeated spikes in insulin, not glucose that cause the problems.

Although repeated studies have shown being only moderately overweight, not just obese, is associated with an increase in numerous medical problems many insurance companies refused to cover any weight related treatments. Their reason for the denial; weight gain is not a medical problem and weight loss treatments are only for cosmetic reasons. Only recently has the medical profession formally acknowledged that even moderate weight gain increases ones risk of developing medical problems. They have named one specific cause of weight gain metabolic syndrome.

Metabolic syndrome replaces Syndrome X, reactive hypoglycemia, hyperinsulinemia and insulin resistance as the official name of this condition. Whatever it's been called progressive practitioners have been identifying metabolic syndrome, and treating it successfully, for years.

Metabolic syndrome is the forerunner of type II diabetes although many will never progress that far. Even with adequate exercise people with this condition will find it impossible to lose weight or feel good while consuming high carbohydrates, moderate protein and low fat. For these people this diet will often be a disaster. The excess of carbohydrates especially refined ones like white sugar and white flour will constantly throw them into insulin excess with its host of related problems.

One clue that may indicate you might have Metabolic Syndrome is a waist to hip ratio greater than 1 for men and .8 for women. For example if your waist is 34 inches and your hips measure 30 your ratio will be 1.13. Another is an insatiable craving for carbohydrates, especially once you've started eating them.

Metabolic syndrome is diagnosed when a patient is found to have an elevated insulin level either while fasting or during a Glucose Tolerance Test (GTT). The diagnosis also requires a patient have high blood pressure, elevated fasting cholesterol and/or triglycerides and an inflammatory disorder like arthritis. Although frequently associated with obesity, metabolic syndrome can occur in individuals who aren't considered overweight.

Recently the acceptable upper limit for a fasting blood sugar value was lowered from 110 to 100. The upper limit, which when exceeded is considered diabetes, is still 125. Those with fasting glucose values between 100 and 125 have impaired glucose tolerance. If you or your doctor suspects you might have metabolic syndrome or diabetes you should at least have both fasting insulin and glucose levels checked. The values considered normal for a fasting insulin range from 3 to 27. In my experience, an upper limit of 27 is much too generous. If a patient has a fasting insulin level over 12 and/or a fasting glucose over 95 as well as signs of symptoms consistent with metabolic syndrome he or she should receive a more extensive workshop. An additional red flag is a positive family history for metabolic syndrome and/or diabetes.

A 2-hour GTT with insulin levels is definitive for ruling out or diagnosing either metabolic syndrome or diabetes. Checking only blood sugars will fail to identify patients with metabolic syndrome until they're on the verge of diabetes. Caught early metabolic syndrome is one of the most treatable disorders that there is. It really isn't even a metabolic disorder at all, it's a dietary disorder. If you discovered your car was having problems because you were using diesel when in fact it needed premium unleaded, would you still try to fix the car or simply change the fuel?

Adequate amounts of nutrients like chromium, vanadium, L-carnitine, vitamin E and magnesium are essential to assist the body's metabolism of glucose.

Another important function of the pancreas along with the salivary glands, stomach, and intestinal lining is the excretion of digestive enzymes. These include protease, amylase, and lipase which break down protein, starch and fat respectively. Digestion begins in the mouth with chewing and the release of amylase. The next step takes place in the stomach where hydrochloric acid (HCL) is released. HCL catalyzes the conversion of several digestive enzymes into their active form in addition to creating a hostile environment for unwanted bacteria and other organisms. Many conditions of heartburn are caused by too little stomach

acid not by too much. When too little HCL is present all the processes of digestion are hampered. This leads to food stagnating in the stomach. When this happens it can cause acid reflux which means contents of the stomach, the food and the acid enter the esophagus which has no coating like the stomachs to protect it. Caffeine, chocolate, alcohol, smoking, overeating, eating shortly before bed and drinking ice water or allot of liquids with meals will also aggravate this condition. Antacids and drugs like Tagamet, Zantac and Pepcid will help the symptoms of the burning but often they will do nothing resolve the core problem. By diminishing HCL production or function these drugs further weaken digestion setting the stage for nutrient deficiencies, worsening food allergies and bacterial fermentation of incompletely digested food.

Symptoms of low HCL include many of the digestive disturbances listed earlier plus the following, a sense of fullness after eating, nausea after taking supplements, rectal itching, iron deficiency unresponsive to supplementation, recurrent intestinal infections and brittle nails. If you suffer many of these symptoms taking HCL with additional digestive enzymes can provide amazing relief. If HCL aggravates your condition you have too much stomach acid and you will need another treatment strategy. Digestive enzymes are derived from both plant and animal sources. I believe the plant enzymes to be a better choice for long term use. With any chronic digestive problem it is always important to rule out parasitic, yeast or bacterial infections, malignancies and inflammatory disorders. Screening for hidden blood in the stool and blood tests which can detect liver and gallbladder problems are also important.

Activities that enhance your sense of personal power will help you maintain a vital and radiant third chakra. Enroll in a martial arts class. An exercise called woodchoppers will help you safely release pent up frustration and anger. Stand with your feet shoulder width apart. Clasp your hands together. Raise them over your head and swing toward the ground as if chopping wood. Do this with force while letting out a yell. Repeat until you feel complete. Light a fire and meditate while gazing into the flames. Watch the Sun rise with gratitude for the light of consciousness and energy it so generously provides.

# CHAKRA FOUR



Anāhata

## UNCONDITIONAL LOVE

**Location:** In the center of the chest.

**Governs:** Our immunity.

**Main issue:** Involves our ability to feel self acceptance and unconditional love

**Externalizes:** As the thymus gland.

**Element:** Air.

**When balanced:** We feel compassionate.

**Color:** A harmonic of **GREEN**.

**Key words:** Healing, ecstasy, serenity, intimacy, nurturing, forgiveness, joy, grief, oxygen and balance.

**Influences:** The heart, blood vessels, lungs, diaphragm, thoracic spine, ribs, breasts, arms and hands.

**Deficiencies:** Manifest as feelings of isolation, loneliness, low self esteem, jealousy and anxiety. Shallow respiration with an inability to take a deep breath or feelings of pressure in the chest are also indicators.

**Excesses:** Manifest in codependent relationships where we give ourselves away and lose our center.

**Imbalances:** Manifest physically as asthma, pneumonia, bronchitis, emphysema, lung cancer, hypertension, heart attacks, palpitations and immune dysfunction including allergies, immune deficiencies and autoimmune diseases.

The energy of the 4th chakra can be easily felt. Unfortunately for many this only becomes obvious after experiencing the breakup of a desired relationship or the loss of a dream. The resultant pain felt in the center of the chest is what we call a broken heart.

It is our false belief in the scarcity of love that generates these feelings and our resultant defensive and offensive behaviors. When the heart center is fully open these feelings and behaviors fade away because we realize that a shortage of love is impossible. Love is our natural state of being and the more we give away the more we get back.

Through the crown or 7th chakra we connect with the Cosmos, the home of the Divine masculine, through the base or 1st chakra we connect with the Earth, the home of the Divine

feminine. It is only through the heart chakra, however, the center point of the seven chakras that we can fully manifest the totality of our divine energy. The heart, not the head, is the portal through which we can both return to and become Source once again. Through the heart we experience ecstasy.

The endocrine gland which interfaces with the 4th chakra is the thymus gland. The thymus gland is located behind the sternum. It is the master regulator of the immune system and secretes hormones which include thymosin and thymopoetin. These hormones stimulate certain white blood cells, the immune systems living defense network, to migrate to the thymus where they mature and develop the ability to protect against and resolve infections and cancers.

The immune system is incredibly complex and intelligent. Included in this system, in addition to the thymus, are the lymph nodes, the spleen and the bone marrow. Lymph nodes are found throughout the body and act as filters for detecting and removing potentially harmful substances from the lymphatic system. The spleen acts as a giant lymph node which filters blood instead of lymph fluid. The bone marrow is the origin of both red blood cells and white blood cells.

White blood cells which are also called leukocytes consist of a vast array of different cell types. A routine blood test called a CBC measures the total number of WBCs which is an indicator of immune function. A high number usually indicates an acute infection but can also be a marker for certain cancers like leukemia. A low number often indicates some sort of immune suppression and is a common finding in HIV infection, AIDS and chronic fatigue and immune deficiency syndrome (CFIDS).

WBCs are divided into 5 categories which include lymphocytes, monocytes, and neutrophils. Monocytes develop into cells that act like pac-mans and roam the body engulfing unwanted visitors and cleaning up after other immune cells have neutralized the danger. Neutrophils are especially important in the defense against bacteria. Lymphocytes are perhaps the most interesting of all and are particularly important in our defense against viruses.

The lymphocytes are the cells which retain the memory of what we have been exposed to in the past. They are the cells that confer immunity against illnesses like the measles and chicken pox once we have had the illness or hopefully after we have been immunized. Lymphocytes are further divided into T cells and B cells. T stands for thymus which is where these cells mature. T cells are predisposed to respond to specific foreign substances called antigens. These cells are responsible for the intense reaction that occurs when we become sensitized to substances like poison ivy. Helper T cells also called T4 or CD4 cells are responsible for producing chemical messengers like interferon which tell other immune cells what to do. T4 cells are the ones which decline dramatically in AIDS. B cells produce antibodies which are also called immunoglobulins.

Antibodies are proteins which target or flag antigens for elimination. Immunoglobulins are further divided into subsets which include IgG and IgE. IgE is what causes the immediate allergic, and sometimes life threatening, reaction people have to certain foods, and substances like bee venom. It is also the cause of hay fever. IgE causes the release of histamines which is why we use antihistamines to combat allergies. It is routinely measured in the skin prick allergies tests. A much less commonly done allergy test involves testing the blood for IgG sensitivities. IgG can cause immediate reactions but more often these

reactions are delayed for hours, sometimes even days. Most food allergies are mediated through IgG. The skin prick allergy test will not pick these allergies up. Many people who have this skin test done will be told they are not allergic to certain foods when in fact they are. A simple blood test is available which measures both IgG and IgE reactions to over 100 different foods and spices. It is a good test to do for chronic problems like digestive disturbances, skin rashes, fatigue states, and sinus problems.

Interestingly many people who suffer repeated infections also are the ones who often develop numerous allergic reactions. It is as if a chronically stimulated immune system exhausts its ability effectively defend against infections, yet in its attempt to do so, overcompensates by attacking everything else including our own body. The end results can include worsening food and environmental allergies, eczema, and autoimmune conditions and lingering infections. All of these skirmishes require enormous energy and often leave the person exhausted.

Fortunately the herbal and nutritional world is full of solutions to address this perplexing set of circumstances. The celebrated Chinese tonic herb astragalus and the tonic mushrooms ganoderma, grifola, polyporous and tremella are frequently used to treat chaotic immune systems. Pharmacological evaluation has shown these particular herbs contain polysaccharides which have immune regulating properties. Polysaccharides are long chain sugars which exert an activating and normalizing influence upon both the T cell and B cell regulated immunity. In addition to their ability to enhance resistance to viruses, bacteria, yeast and parasites they have anti-inflammatory, anti-allergy, and anti-carcinogenic properties. Quercetin is a bioflavonoid which is commonly used to treat allergies that has also demonstrated antiviral properties. It should be taken with bromelain to increase its absorption. Adequate vitamin C, zinc and selenium are also essential for proper immune function.

Breath is the key to opening the heart chakra, energizing the body, clearing our emotions, increasing mental clarity, and accessing expanded states of consciousness. Most spiritual traditions of the world equate the breath with the universal life force. It has been called Qi by the Taoists, prana by the Hindu, and mana by the Hawaiians. These traditions and many others have all developed conscious breathing exercises in order to transform themselves and enter states of bliss and ecstasy.

Activities to open the heart will also help regulate the immune system. Sign up for a transformational breathwork class. Laugh allot. Volunteer for a cause dear to your heart. Go to the mountains for breath of fresh air. Celebrate Earth Day. Plant a tree. Buy more plants. Fill your home with green eco friendly products. Give generously and receive graciously.



# CHAKRA FIVE



Viśuddha

## SELF EXPRESSION

**Location:** in the throat.

**Governs:** our metabolism during activity and determines our resting metabolic rate.

**Main issue:** communication and self expression.

**Externalizes:** as both the thyroid and parathyroid glands.

**Element:** sound.

**When balanced:** we feel harmonious.

**Color:** a harmonic of **BLUE**.

**Key words:** vibration, creativity, voice, language, myth, talking, listening, harmony, resonance, rhythm, music, singing and chanting.

**Influences:** the neck, cervical spine, shoulders, trachea, vocal chords, throat, mouth, gums, teeth, tongue, ears and jaw.

**Deficiencies:** manifest as stifled creativity, repressed communication and an inability to speak our truth. Often these feelings are described as a lump in the throat or that the cat got our tongue.

**Excesses:** appear as incessant chatter, or loud and boisterous behavior.

**Imbalances:** manifest physically as chronic sore throats, strep throat, neck and shoulder pain, earaches and infections, canker sores, swollen glands in the neck, laryngitis, hearing loss, and hyper or hypometabolism.

Through the fourth chakra we feel love. Through the fifth we have the ability to express it. Throughout history humans have chanted as a form of praise or to enter deep states of meditation and worship. All of nature chants from thunder to birds to the rustling leaves of the aspen tree. Only modern humans have forgotten to chant. As a result we have become disenchanted with our world. To become enchanted literally means to be roused to ecstatic admiration.

A number of years ago I heard a tape which had crickets chirping over a background of what I thought was a choir chanting. A few moments into this beautiful mix a woman explained that what was being heard was not a human choir. The "Choir" was the exact same recording of the crickets slowed down to a frequency resonate to that of a humans. The

intended effect was a dazzling and delightful way to show that the natural world and all of creation exists in a constant state of praise and gratitude. That this is our natural state. It is not in praise of some being far removed, but in praise of being itself. That in fact the sound of praise, emitted in a million different ways through vibration, creates the universe.

This belief that sound is responsible for the creation and maintenance of the material universe is held by many spiritual traditions. Our vocabulary is full of associations that reinforce this concept. A destructive idea, someone whose judgment is falling apart and an unstable structure are all called unsound. The fact that we use the word spell to describe the creation of words, as well as the invocation of magic, shows the inherent creative power we attribute to language and sound.

The endocrine glands which interface with the fifth chakra are the thyroid and parathyroid glands. The parathyroid glands rest upon the surface of the thyroid and are responsible for maintaining calcium and phosphorus levels in the blood. The thyroid is a butterfly-shaped gland located at the base of the neck in front of the trachea or windpipe. The thyroid acts as a thermostat which controls the body's temperature and regulates metabolic rate of every cell in the body

Thyroid-stimulating hormone (TSH), which is secreted by the pituitary gland, controls the amount of hormones produced by the thyroid gland. Thyroxin or T4 accounts for roughly 80% of hormones secreted while the remaining 20% is liothyronine or T3. T4 refers to the presence of 4 iodine atoms attached to several molecules of the amino acid tyrosine. T3 is produced, in the thyroid and throughout the body, from T4 by the enzymatic removal of one specific iodine atom. T3 is 4 times more metabolically active than T4.

Whether the thyroid is under or overactive the deleterious consequences of its malfunctioning can be extensive.

Hyperthyroidism is due to an excessive amount of thyroid hormones. Symptoms include an increased body temperature, jitteriness, restlessness, anxiety, and insomnia. Hyperthyroidism frequently triggers an irregular rapid heart rate called atrial fibrillation. This is an arrhythmia which if left untreated can sometimes be fatal.

Hypothyroidism results in an underactive metabolism most often due to an insufficient amount of thyroid hormones. The problem can occur from a failure of the thyroid gland or from a deficiency of the hormones that stimulate the thyroid like TSH.

Hypothyroidism manifests as a wide variety of clinically recognized symptoms. The more common ones include fatigue, depression, infertility, weakness, menstrual disturbances, diffuse muscle aches and pains, thinning hair, dry skin, repeated infections, constipation, carpal tunnel syndrome, memory and cognitive disturbances, cold intolerance, cold extremities, and weight gain. Elevated cholesterol is extremely common in patients with hypothyroidism.

Not all people with hypothyroidism will have all these symptoms, and not everyone with these symptoms will have hypothyroidism. Western medicine considers measuring the levels of TSH and free T4 to be the gold standard for diagnosing hypothyroidism. Relying solely on these two blood tests misses a significant number of patients who in fact have hypothyroidism.

Patients who have an insufficient amount of T3 or Hashimoto's thyroiditis are often missed but frequent causes of hypothyroidism. Hashimoto's thyroiditis is an autoimmune disease which produces antibodies that interfere with the production and function of the

thyroid hormones. Testing the levels free T3 and checking antibody levels in addition to the standard thyroid panel will result in more accurate diagnoses.

Broda O. Barnes, M.D., a longtime researcher of, and clinician specializing in, thyroid physiology estimated that as much as 40% of the American population may suffer from some degree hypothyroidism. Medical diagnostic standards have continually evolved and improved over the course of this century. In spite of these advances Dr. Barnes found the simple measurement of basal body temperature to be a reliable indicator of one's metabolism. It is important to remember there are other causes of a low body temperature.

To do this test, shake a glass thermometer down before you go to bed and leave it on your nightstand. Upon awakening and before getting up or moving around, take your temperature by placing the thermometer in your axilla or underarm, not your mouth. Leave it in place for ten minutes. Take at least 6 readings, on different days, and average them together.

Menstruating women should do the test during the first week of their cycle. Postmenopausal women and men can do it anytime. If your average temperature falls below 97.4, and you have several of the symptoms described above, you might very well be suffering from hypothyroidism. You should consider working closely with a health care professional to improve your metabolism.

Another forgotten but invaluable indicator of hypothyroidism is a simple reflex test of the Achilles tendon. A delayed or sluggish response is strong indicator for hypothyroidism.

A wide variety of natural and synthesized thyroid hormone preparations are available to treat hypothyroidism. The standard Western medical treatment is thyroxin or T4. Synthroid and Levoxyl are simply brand names of T4. This is not always effective for, or well tolerated by, every patient. Cytomel is a commercially available prescription containing only T3. Commercially available replacements which contain both T3 and T4 include Thyrolar and desiccated bovine or porcine thyroid glands like Euthroid and Armour Thyroid. Some of the benefit patients have reported from glandulars have been attributed the presence of a complete range of thyroid hormones. Although these work well for many they are not appropriate for everyone. Working with an experienced practitioner, compounding pharmacies can create exacting customized prescriptions.

It may take several trials with various preparations in different dosages to discover what is optimal for you. It is also important to recheck the thyroid blood panel periodically. Clinical response, however, is often the most important indicator of optimal dose.

In addition to tyrosine and iodine proper thyroid function depends on a variety of other nutrient cofactors. These include certain B vitamins, essential fatty acids like evening primrose oil and the minerals zinc, copper, manganese and molybdenum. Iodine's close relatives fluorine (Fluoride) and chlorine can inhibit thyroid hormone formation. Mercury from dental amalgams and food contaminated with a variety of other environmental toxins has also been reported to reduce metabolic efficiency. Therefore choose your food and water sources carefully.

Activities to harmonize the fifth chakra and balance your metabolism involve expression and creativity. Sing, speak your mind, chant or join a drumming circle. Learn to play a musical instrument. Generously praise the people in your life. Sit quietly in nature and enjoy to the symphony of sounds around you.

# CHAKRA SIX



Ājñā

## INTUITION

**Location:** between the eyebrows.

**Governs:** our circadian rhythms.

**Main issue:** intuition.

**Externalizes:** as the pineal gland.

**Element:** light.

**When balanced:** we feel imaginative.

**Color:** is a harmonic of **INDIGO**.

**Key words:** vision, seeing, sleep, dreams, trance, clairvoyance, color, rainbow, psychedelic, holographic.

**Influences:** eyes, nose, sinuses, forehead, occiput.

**Deficiencies:** will manifest as hopelessness, despair and a lack of vision and insight.

**Excesses:** will appear as hallucinations, schizophrenia and manic behavior.

**Imbalances:** will manifest as sinusitis, allergic rhinitis, frontal headaches, mood disorders, sleep disturbances, insomnia, blindness and eye diseases like conjunctivitis, keratitis and retinopathy.

Through the fifth chakra we experienced the vibrations of sound. Through the sixth carried on the vibrations of light we can transcend physical limitation and journey to other dimensions and realms. Here through meditation, visions, and dreams we can summon the power of color and light. Cultures throughout history have understood this possibility. Since the beginning of time shamans have, with the aid of totem animals and psychoactive plant allies, opened their third eye seeking enlightenment.

The Sun continuously bathes the Earth with its entire living electromagnetic light spectrum. These emanations are both information and energy. This spectrum includes the intensely powerful, high frequency, cosmic, gamma, X and ultraviolet rays on one side and infrared, radio, TV and electric waves on the other. In between ultraviolet and infrared we have the colors of the rainbow, from low energy red on through orange, yellow, green, blue, indigo to high energy violet

How is it we presently fear something so much that energizes every cell of our being, that we in fact owe our very existence to? Certainly extreme Sun exposure has its

consequences, but now people shield themselves in every way from sunlight with creams, glasses, hats, clothes and staying inside. I do not believe in the inherent toxicity of the Sun but instead think we have somehow polluted the effects of its rays the same way we have polluted everything else. Natural light, fresh air, pure water and clean food are the essentials of life.

. Stop and think do you really believe talking on your cell phone, covered in chemical sunscreens driving 60 miles an hour is safer than a modest amount Sunlight.

The endocrine gland which interfaces with the sixth chakra is the pineal gland. It is the size of a pea and is located in the geometric center of the head in a cavity known as the third ventricle of the brain. In some animals the pineal is still located very near the surface of the forehead and is directly influenced by light radiation. In humans the influence of light is mediated through the retina of the eyes and propagated along a complex nervous pathway to the pineal gland.

The pineal secretes the hormone melatonin which is responsible for synchronizing our internal rhythms with those of the natural world around us. Melatonin affects virtually every cell of the body. It plays a pivotal role in regulating hormonal levels, sleep-wake cycles, body temperature, immunity, reproductive capacity and longevity

Melatonin is a potent antioxidant and has been used in numerous therapeutic regimens from treating cancers to preventing cardiovascular disease. Melatonin secretion is inhibited by light and stimulated by darkness. Levels are normally low during the day and begin to increase in the evening reaching their peak after midnight

Production reaches its peak during early childhood and then declines throughout one's life.

Melatonin's most familiar and popular usage is for the treatment of insomnia. It has been named "nature's sleeping pill" The amounts needed to successfully treat insomnia vary widely. Some people don't respond at all. Recommendations range from 300 micrograms to 10 milligrams. There is no universally accepted dosage or schedule for its long-term use. One milligram or less, however, is considered quite safe by most.

Melatonin has also been used extensively to minimize the drag many experience as a result, of jet lag. Three milligrams taken the first 3 nights 1 hour before bedtime at your new destination has been shown to be the best regimen.

Seasonal Affective Disorder (SAD) is a form of depression which was found to occurs most often in late fall and throughout the winter. Melatonin was mistakenly suspected as the cause of SAD. It was assumed that the longer periods of darkness increased the production of melatonin which then caused the depression. The real problem is an insufficient exposure to bright morning light which stimulates the brain to produce the mood elevating neurotransmitters serotonin, dopamine and norepinephrine.

With our increasing photon-phobia SAD may be an increasing cause of depression all year long. The cycle of production of both melatonin and the neurotransmitters can be disrupted by stress, many medications and erratic sleep schedules. Chaotic electromagnetic fields from computers, power lines, cell phones and microwaves all can be particularly problematic. Anything which requires electricity to power it will generate an electromagnetic field. Luckily most gizmos don't pose any problems unless they are within inches of the body. This is why sleeping under electric blankets or very close to power cords and outlets is considered unwise. Electrical appliances with spinning motors like fans however can generate fields which can radiate several feet or more depending upon the size and type of

the motor.

Those who are particularly prone to SAD can suffer not only from insufficient sunlight in any season but also from an unbalanced spectrum of light emitted by most indoor lighting. Regular florescent lighting is especially problematic for those who suffer from SAD. Florescent lighting has been shown to increase the incidence of problems from headaches to ADHD.

The best treatment for SAD, and a fine idea for most everyone else, is getting outside each morning for 30 minutes of bright unfiltered light exposure. If this isn't practical or possible there are special light boxes which are both bright enough and balanced to mimic some of the benefits sunlight provides. Both incandescent and florescent bulbs are available which emit a spectrum of light closer in composition to that of Sun. These bulbs are available at health food stores and through catalogues marketing earth friendly and health enhancing products.

All seven chakras are associated with one color of the rainbow, from red at the root to the violet at the crown. It is through the sixth chakra, however, that we are able to envision the entirety of their kaleidoscopic beauty.

To activate your sixth chakra and open your third eye, hang prisms in windows to cast rainbows around your home. Practice creative visualization. Trust your intuition. Use your imagination. Keep a dream journal. Celebrate the Solstices.

We need both the light of day and the dark of night to realize our full visual capacity. With one we are able to see the beauty that surrounds us, with the other during our dreams we can see the beauty within.

# CHAKRA SEVEN



Sahasrāra

## UNDERSTANDING

**Location:** the crown or top of the head.

**Governs:** the integration of the central nervous system with that of endocrine glands.

**Main issue:** understanding.

**Externalizes:** as the pituitary and hypothalamus glands.

**Element:** thought.

**When balanced:** we know.

**Color:** a harmonic of **VIOLET**.

**Key words:** awareness, intelligence, memory, cosmic consciousness, universal mind, unity, oneness, silence, spirituality, soul and celestial.

**Influences:** the central nervous system including the cerebrum, cerebellum, brain stem spinal cord and the skull.

**Deficiencies:** will manifest as memory loss, personality changes, cognitive impairment, confusion, alienation and a loss of meaning in one's life.

**Excesses:** will appear as feelings of spiritual superiority, ungrounded and spacey behavior, feeling as if one's head were in the clouds, or in being overly intellectual.

**Imbalances:** will manifest as Alzheimer's, Parkinson's, stunted or excessive growth, attention deficit disorder, multiple sclerosis, seizures, dementia, depression, learning disabilities or multiple endocrine abnormalities.

The Sanskrit name of the seventh center is sahasara which translates roughly as the thousand-petaled lotus. The first chakra anchors the roots of our being within the Earth and from the crown chakra flowers our consciousness with which we can become aware of and begin to comprehend the cosmos.

On crystal clear nights with my feet planted firmly on the ground and looking toward the heavens I often contemplate our place between the atoms and the stars. The magnitude of both boggle my mind. On rare and special nights I really understand how we identify ourselves, our individuality is only a matter of perspective. Where does the autonomy of each of our individual cells end and where do we as humans begin?

We are the omnipresent energy fields we call subatomic particles. We are the atoms

which form the molecules which link to become the cells we identify as life. We are also the single celled organisms which coalesce to become the organs and structures we call our bodies. The body of every single organism, within our priceless biosphere, each become one individual cell each within the body of the being Gaia, our Earth.

We, the living Earth, are one of ten electrons encircling our radiant Sun. Our solar system is just one of the innumerable atoms composing the body of our galaxy, the Milky Way. This magnificent spiral galactic being, the Maya named Hunab Ku, is but one among many diverse universal citizens.

I am always amused when I hear of our valiant search for intelligent life in other parts of the Universe. With millions of starry eyes the heavens blink back at us wondering how we can be so blind. . The Universe itself is intelligent life. Life is everywhere permeating everything. There is nowhere life is not

The words matter and maternal share a common root as do the words pattern and paternal. For millennia we have glorified heaven and the power and pattern of the Father and denigrated earth and the forces within matter of the Mother. We have forgotten that all Matter is alive and that all Life matters. The consequences have been catastrophic,

Our purpose as humans precariously perched between heaven and earth is to materialize spirit and spiritualize matter. The balance point between these two realms is within the heart chakra. It is from here that the next level of creation will unfold. This momentous event will occur when this beautiful blue-green jewel, called Earth, awakens to the awareness of itself as a single conscious entity in the same way we now perceive our own human individuality. We are all a part of, and active participants in, this ongoing transformation. From our crown center we can perceive all this, but it is through our heart center that we will manifest it.

The endocrine glands which interface with the seventh chakra are the pituitary and the hypothalamus. These two glands together with the pineal, the gland of the sixth chakra, orchestrate the hormonal symphony of the human body. The hypothalamus could be considered the composer, the pituitary the conductor and the pineal the metronome.

The hypothalamus acts as the central command center receiving, transmitting and integrating complex communications between multiple centers in the brain and the rest of the body. It coordinates our thoughts and emotions with our endocrine, cardiovascular, digestive, and immune systems. Its messengers include neurotransmitters, which influence our appetite, thirst, sexual behavior and emotional responses. The hypothalamus is connected to the pituitary by a thin stalk through which it transmits messages and transports "hormone-releasing factors" which control the stimulation or inhibition of all hormones secreted by the pituitary gland.

The majority of hormones the pituitary produces each specifically regulate only one or a pair endocrine glands. Other hormones influence very specific functions like, the production of breast milk, uterine contractions during labor and keeping the body's water in balance.

The pituitary's preeminent hormone, however, is growth hormone (GH). Unlike the other pituitary hormones, which only act at specific sites, GH exerts profound and powerful effects throughout the entire body. The major action of GH is the stimulation of bodily growth from infancy into late puberty. GH production declines steadily each decade thereafter until, at very old age, it nearly vanishes. GH, however, is still very active in adults and protects nerve cells against degenerative disease and death, maintains bone density, counters fatigue, boosts immunity, increases lean muscle mass, reduces fat, improves skin tone and integrity,



and enhances many aspects of psychological well being. It is easy to see why GH replacement is gaining popularity as a rejuvenation therapy and is being promoted as the fountain of youth.

GH is released predominantly during anaerobic exercise and deep stage IV sleep. Even though GH levels wax and wane quickly it's profound and powerful effects are enhanced by a very potent hormone called insulin-like growth factor 1 (IGF-1), which is produced by the liver in response to GH. The simplest way to determine GH levels in the body is to measure IGF-1 levels. IGF-1 levels can be used to determine the need for, or to monitor, GH replacement and enhancing therapies. Excessive GH and IGF-1 have been associated with an increased risk for breast, prostate and pancreatic cancer in addition to causing carpal tunnel syndrome, excessive muscle mass and joint and muscle pain.

Synthetic GH has recently become widely available and is being used for a variety of medical conditions. It is currently indicated for adults and children with documented GH deficiencies and in the treatment of AIDS wasting disease. It is only active in the injectable form. The price, however, is exorbitant making it an option only for well insured and the wealthy.

Beware of products claiming to contain GH in an oral or "homeopathic" form or those that promise to effortlessly stimulate its release. Most will have infinitesimally little or no GH at all. GH taken orally is immediately digested and inactivated. Although there are specific nutrients that can enhance GH release, they need to be used at appropriate times and in adequate doses. These include specifically the amino acids arginine, ornithine and leucine. In order for GH to function optimally, however, it also needs a harmonious balance of all the other endocrine hormones. Quality protein, carbohydrates and fats and a host of other supporting nutrients including vitamin C, pantothenic acid and potassium are also needed for optimal GH output.

To balance your seventh chakra and ensure optimal GH release requires both movement and motivation as well as sitting in stillness and silence, doing nothing.

Tao abides in non-action,  
Yet nothing is left undone  
Tao Te Ching, excerpt # 37

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