



PATIENT EDUCATION INFORMATION

ADRENAL HORMONE IMBALANCE

And

ADRENAL FATIGUE

Adrenal Imbalance

The adrenal glands produce three types of steroid hormones: glucocorticoids (cortisol), mineralocorticoids (aldosterone), and androgens (DHEA/DHEAS). Cortisol enables the body to respond and adapt to the stresses of daily life. It also helps to maintain blood sugar levels and promote a healthy immune system. Aldosterone works to balance salt and water in the body. Androgens secreted by the adrenals provide the majority of DHEA for both men and women. For women, the adrenal glands are the major source of testosterone. Imbalances in the adrenal system can contribute to problems with the nervous and immune systems, body composition difficulties, blood sugar irregularities, and high androgen levels.

Symptoms of adrenal imbalance (in alphabetical order), allergies, asthma, arthritis bone loss, chemical sensitivities, morning and evening fatigue, high blood sugar, increased abdominal fat, memory lapses, sleep disturbances, and sugar cravings .

Many people experience high levels of mental and emotional stress on a regular basis putting a significant strain on adrenal function. The adrenal glands are two triangle-shaped glands that sit over your kidneys, and are primarily responsible for governing the body's adaptations to stress of any kind. When stress becomes excessive, or is not well-managed, the ability of the adrenal glands to do their job becomes compromised. The adrenals normally secrete cortisol in response to stress, exercise or excitement, and in reaction to low blood sugar.

The body normally secretes the highest amount of cortisol in the morning to get us going, with levels decreasing throughout the day. People with adrenal imbalance will often have abnormally high or low cortisol levels throughout the day. If stress remains too high, the adrenals are forced to overproduce cortisol continuously. After a prolonged period of time, the adrenals can no longer keep up with demand and total cortisol output plummets, leading to adrenal exhaustion.

The hallmark symptoms of adrenal dysfunction are stress and fatigue that is not alleviated with sleep, or that tired all the time feeling. Other common symptoms include sleep disturbances and/or insomnia, anxiety, depression, increased susceptibility to infections, reduced tolerance for stress, craving for sweets, allergies, chemical sensitivities and a tendency to feel cold. Saliva testing charts the extent to which cortisol levels are out of balance and test results can be used as part of a strategy that looks at the whole person and his or her lifestyle. It is helpful to work with a doctor who can design a complete program of hormone balance and then monitor your progress. You can begin to support adrenal function on your own by avoiding hydrogenated fats, excess caffeine, refined

carbohydrates, alcohol, and sugar. Get plenty of quality protein and eat regular meals of high nutritional value. The key to success is to discover and practice stress management in whatever form works for you personally. Take time out, evaluate the stressors in your life, and find ways of expressing yourself creatively. Get enough rest and sleep. And last but not least, keep a sense of humor!

Adrenal Fatigue Syndrome

Adrenal Fatigue Syndrome affects an estimated 80% of adults at some point in their lives. Yet, it is one of the most under-diagnosed illnesses in the U.S. Often, patients go from doctor to doctor trying to find out why they feel exhausted and sick. Too often they're told that there is nothing wrong with them or, worse, they are made to feel like hypochondriacs. What are Adrenal Glands? The adrenal glands (also known as suprarenal glands), sit on top of the kidneys and are chiefly responsible for regulating the body's stress response through the synthesis of corticosteroids and catecholamines, including cortisol and adrenaline. In other words, the task of your adrenal glands is to rush all your body's resources into "fight or flight" mode by increasing production of adrenaline and other hormones. When healthy, your adrenals can instantly increase your heart rate and blood pressure, release your energy-stores for immediate use, slow your digestion and other secondary functions, and sharpen your senses.

What is Adrenal Fatigue Syndrome?

Adrenal Fatigue Syndrome comes from a failure of the adrenal glands to efficiently produce hormones. The adrenal glands secrete cortisol, a hormone fundamental to optimal health. An excess of cortisol in the body can lead to severe problems, including Cushing's syndrome. However, when released in normal levels by the adrenal gland, cortisol is essential to helping our bodies cope with stress and to fight infection—without cortisol the body cannot sustain life! Balance is crucial. Cortisol affects every tissue, organ, and gland in the body. When the adrenal glands are fatigued, they do not supply the body with enough cortisol. The body does what it can to get by, but it is not without consequences. As such, Adrenal Fatigue Syndrome generally precedes other chronic conditions. A deficiency in adrenal gland functioning can result in debilitating symptoms such as chronic fatigue, increased susceptibility to illness, lowered sex drive, lethargy, and weight gain.

You may have Adrenal Fatigue Syndrome if you are experiencing any of these symptoms: Fatigue, lethargy, lack of energy in the mornings, also in the afternoon between 3 and 5 pm. Often feel tired between 9 and 10 pm, but resist going to bed, lightheadedness (including dizziness and fainting) when rising from a sitting or laying-down position, lowered blood pressure and blood sugar, difficulty concentrating or remembering (brain fog), consistently feeling unwell or difficulty recovering from infections, craving either salty or sugary foods to keep going, unexplained hair loss, nausea, alternating constipation and diarrhea, mild depression, decreased sex drive, sleep difficulties, unexplained pain in the upper back or neck, increased symptoms of PMS for women – periods are heavy and then stop (or almost stop) on the 4th day, only to start flowing again on the 5th or 6th day, tendency to gain weight and inability to lose it, especially around the waist, high frequency of getting the flu and other respiratory diseases, plus a tendency for them to last longer than usual.

All of these symptoms might be caused by an inability for your body to produce enough cortisol – the root cause of adrenal fatigue syndrome. Diagnosis -- The following tests and procedures may help you find out what is causing Adrenal Fatigue Syndrome: Online Self-assessments such as the “Candidiasis Self-Assessment” and the “Magnesium Assessment” can help you determine some of the root cause(s) of your chronic conditions. Learn more about self-assessments.

Adrenal Function Test (AFT) – Measures levels of DHEA and cortisol during four periods of the day to determine if there is a hormone imbalance. This is a comprehensive evaluation of adrenal functioning recommended for those with excessive stress, allergies, chronic fatigue, and sleep problems—all indicators of immune dysfunction.¹

Morning Cortisol – Too much or too little cortisol can signal a hormone imbalance. If there are noticeable levels of stress or fatigue in the morning, this test may indicate problems with cortisol levels.¹

AM/PM Cortisol – Too much or too little cortisol can signal a hormone imbalance. If there are noticeable levels of stress and fatigue in the mornings and again in the afternoon, this test may indicate problems with cortisol levels.¹

DHEA-S – Measures levels of the DHEA hormone using saliva sent to a lab for analysis. DHEA, with testosterone, are key factors in muscle mass and energy—and are strongly linked to depression, weight gain, and cardiovascular disease.²

Hormone Profile III + AFT – Measures levels of estradiol, progesterone, testosterone, DHEA, and all four cortisol levels—morning, noon, evening, and night. This is the most complete test of how hormone levels relate to symptoms of menopause, andropause, and adrenal function.¹

ACTH Challenge Test – The ACTH test is generally ordered when cortisol levels are low. It measures the levels of adrenocorticotropic hormone (ACTH)—a hormone secreted by the pituitary gland that, in turn, tells the adrenal glands to secrete cortisol-2. **Cortisol test** – Measures levels of cortisol in the blood. Cortisol helps keep blood sugar levels normal, control inflammation, boost the immune system, regulate metabolism and body temperature, and influence blood pressure. A doctor-ordered cortisol test may be done using blood samples taken in the morning and again in the afternoon. Or, it can be done using urine collected over a 24-hour period. Often the results can be affected by stress, pregnancy, hypoglycemia, eating or drinking prior to the test, or other medications.