



ADRENAL DYSFUNCTION AND FATIGUE

The adrenals are walnut-sized glands that sit on top of the kidneys. Since the 1950's we have known that they control most of the body's responses to stress, both physical and emotional. In fact, Dr. Hans Selye, who did the pioneering research in adrenal physiology and stress, actually invented the word "stress" as we use it today. Before that, it was just a term used in physics. There are 2 main adrenal hormones, cortisol and adrenaline, adrenaline is the hormone responsible for the "fight or flight" response (a phrase also coined by Selye). It is secreted acutely in emergencies in response to danger signals from the brain. Cortisol works over longer periods controlling our adjustment to our environment.

Cortisol is an important hormone in the body and is involved in the following functions and more: Proper glucose metabolism, regulation of blood pressure, insulin release for blood sugar maintenance, immune function, and proper inflammatory response. Cortisol has been termed "the stress hormone" because it is secreted in higher levels during the body's "fight or flight" response to stress, and is responsible for several stress-related changes in the body. Higher and more prolonged levels of Cortisol in the bloodstream (like those associated with chronic stress) have been shown to have negative effects on the body, such as: Impaired cognitive (mental) performance, suppressed thyroid function (weight gain), blood sugar imbalances such as hyper (high) or hypo (low) glycemia (blood sugar), decreased bone density, decline in muscle mass, higher blood pressure, lowered immunity and inflammatory responses in the body, slowed wound healing, and increased abdominal fat, which is associated with a greater amount of health problems that fat deposited in other areas of the body.

Normally, this "get-up-an-go" hormone is at its highest levels in the morning to get us moving after sleep, then gradually declines through the day to be low at night. In the early phases of stress it will be elevated causing rises in blood sugar and blood pressure. If the stress persists, it will stay elevated causing all sorts of other problems including fatigue, elevated cholesterol and triglycerides, weight gain around the middle, lower hormone levels, depression/anxiety, loss of muscle, infertility, and disturbed sleep. **Over time, the normal flow of cortisol levels can become reversed causing it to be low in the morning, with worsening fatigue, weakness and lightheadedness, and elevated at night causing all of the problems mentioned above. In severe cases, such as people with prolonged illnesses, the level stays low all of the time producing profound fatigue and weakness.**

While these problems have been called "adrenal fatigue" by alternative and functional health practitioners over the years, they are actually based in reactions in the control centers in the brain and pituitary, the "master" hormone gland, and not in the adrenal glands themselves. Therefore, medical tests for adrenal function, designed to diagnose adrenal failure or Addison's disease, are almost always normal. This has caused much confusion over the years, especially among hormone specialists. Probably the best testing for this currently available is a 24 hour saliva cortisol panel which the patient can do at home. This test is not covered by insurance, however, and costs around \$120. Most of the time, the patient's history and symptoms combined with blood cortisol testing in the morning, and sometimes the afternoon, are sufficient to give a diagnosis.

The adrenals can heal over time, though this process takes a number of months and, under some circumstances, years if the condition has been present for a long time. Several different types of treatments are available. First and foremost are dealing with the sources of stress and making sure you are getting enough sleep. Without these, no amount of treatment will be successful. For milder cases, herbal preparations known as adaptogens are very helpful. The cortisol balancing supplements we have at Complete Care were specifically designed to help people with the common low AM/high PM pattern of cortisol. In more severe cases, use of low doses prescription hydrocortisone can be a lifesaver. This therapy was pioneered by an endocrinologist, Dr. Wm. Jeffries, who found that low doses of milder steroids do the opposite of the high doses of stronger drugs like prednisone that doctors

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use in conditions like autoimmune diseases and asthma. As long as the dose is kept at or below 20 mg. a day, none of the long term dangerous side effects of steroids are seen. Nevertheless, some doctors and pharmacists are not aware of this and the FDA requires the pharmacy to place the same warnings on the prescription as if you were taking high dose steroids. In fact, my experience is that this treatment ultimately allows the body to heal. After people are feeling well for 6-12 months, provided that they have the stresses in their life under better control, we can usually taper them off the hydrocortisone to just use the herbal supplements.

Adrenal Fatigue

Common Symptoms:

- Fatigue
- Frequent illnesses
- Anxiety
- Aches
- Depression
- Reduced memory
- Difficulty concentrating
- Insomnia
- Low libido
- Food cravings
- Lightheaded
- Dry skin
- Hair loss
- Inability to lose weight

Causes: Chronic stress is the number one cause of adrenal fatigue. This stress can be caused by:

- Social stress:
 - Financial, Marital, Familial, Loneliness, Anger
- Lack of sleep
- Chronic illness or infection
- Chronic pain
- Depression
- Poor Diet:
 - Excessive sugar, grains, dairy, alcohol or caffeine
- Gluten intolerance or other digestive problems
- Use of multiple prescription drugs

Treatment:

- Diet: Your diet should consist of 75% vegetables, 20% lean protein and 5% fruits and nuts.
 - Limit or eliminate sugary or empty calorie drinks such as juice, soda and alcohol.
 - Avoid sugary foods and processed foods, especially those with hydrogenated oils that produce trans fats.
 - Avoid grains and dairy products.
 - Avoid or limit caffeine.
 - Use sea salt in place of traditional salt.
 - Drink LOTS of water.
- Remove stressors: Take time each day to identify emotional or situational stressors that you can eliminate.
 - Stress relief: Laughter, time with supportive friends, deep breathing, rest breaks. Take 10-30 minutes once or twice daily to lie down and close your eyes. Practice deep breathing.
- Sleep: Get at least eight hours of uninterrupted sleep each night. It is important to go to sleep by 10pm because our adrenals do most of their work to repair the body between 10pm and 1am. Avoid caffeine, which interrupts sleep patterns. Avoid cell phone screens, computers and TV after 8pm.
- Exercise: 20-30 minutes per day. Include aerobic (cardiovascular), anaerobic (weights and resistance), and flexibility (stretching or yoga).

Supplements:

- Adrenal support supplement
- High potency B-complex, liquid drops or capsules.
- Natural vitamin E, 400 mg/day
- Vitamin C, 2-4 g/day
- Bioflavonoids, 2-4 g/day
- DHEA, 10-25 mg/day
- Phenylalanine (DLPA), 1,500-2,250 mg/day
- Pantothenic acid, 1,000-1,1500 mg/day
- Licorice root. Monitor blood pressure if hypertensive.
- Calcium, 800-1,200 mg/day
- Magnesium, 400 mg/day

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