Adrenal Health and your patient; Solutions for fatigue and insomnia

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“When the adrenals release cortisol inappropriately an evening rise can cause sleep disturbance and low morning levels will cause fatigue. With healthy adrenals your patient will sleep well, and have steady energy throughout the day.”

Most doctors agree the most common presenting patient complaint and one they hear with increasing frequency is fatigue. A close second is sleep disturbance. Adrenal dysfunction is a potential cause of both fatigue and insomnia. The adrenal glands are important for normal physiologic stress response and basal energy due to their release of cortisol. Cortisol is released in a circadian rhythm throughout the day under the influence of ACTH. Under healthy circumstances, cortisol levels are highest in the morning and lowest at night. When the adrenals release cortisol inappropriately an evening rise can cause sleep disturbance and low morning levels will cause fatigue. With healthy adrenals your patient will sleep well, and have steady energy throughout the day.

Cortisol regulates carbohydrate, fat and protein metabolism. It converts amino acids to glucose, increases insulin resistance, increases serum glucose, increases lipolysis, increases free fatty acids, and increases protein breakdown. All of this functions to keep a steady supply of energy readily available.

In times of stress, higher levels of cortisol are released. This action increases heart rate, increases blood pressure, releases energy stores, and sharpens the senses. All of these functions are imperative during times of danger to initiate the “fight or flight” response. A person requires upregulation of their metabolism along with a ready supply of energy to either fight or flee in the face of impending danger. This fight or flight response is designed for acute (short term) stress followed by a long period of recovery.
In this day and age we are exposed to too much chronic stress. The stress can be environmental, psychosocial, physiological or biological in origin. Environmental stressors include noise, pollution, and radiation. Psychosocial stressors include, traffic, financial pressures, work related and family stress. Physiological stressors include poor diet, skipping meals, lack of sleep, illness / trauma and toxicity. Biological stressors include viruses, bacteria, and parasites. The vast majority of my patients can identify 2 or more of the above stressors as chronic issues in their lives.

We saw how cortisol is critical for survival but when sustained for long periods of time it is associated with many health problems. There is a destructive side to cortisol. Prolonged periods of elevated cortisol will decrease bone and muscle mass, slow healing, impair normal metabolism, weaken the immune system, cause appetite stimulation, truncal obesity, insomnia and mood alterations.

The adrenal glands also release DHEA. DHEA is an androgen and is a precursor to estrogen and testosterone. The primary role of DHEA is to help control cortisol.

DHEA is also anabolic, increases muscle mass, stimulates bone deposition, increases fat loss, and lowers LDL cholesterol

Within the mainstream medical community there are two widely recognized conditions of adrenal dysfunction; Cushing’s and Addison’s disease. Cushing’s is a condition of extreme adrenal hyper-function and Addison’s of adrenal hypo-function. Both of these conditions are life threatening and require long term medical care. A new concept has emerged that has been called “Adrenal Fatigue”. This is a relative adrenal dysfunction that does not represent full blown adrenal insufficiency or excess.

Hans Selye developed the original concepts of adaptive stress in the 1930s. Stress is a state of threatened homeostasis. A stressor is any agent or condition which threatens this homeostasis. “General adaptation syndrome” is a non-specific response to stress. It is a mechanism to increase the power of resistance to stressors and to adapt to environmental change. According to Selye, there is a finite amount. So “adaptive energy” declines with increasing or continuous exposure to stressors.

To evaluate a patient’s adrenal health salivary adrenal testing is utilized. Neurolab’s AH profile (also included in HPA profile) consists of 4 readings of free cortisol and 2 of DHEA. Salivary testing has been shown to accurately correlate with plasma levels of free cortisol and free DHEA. The tests asses cortisol at 7 am, 12 noon, 3 pm and 11 pm to determine if cortisol follows its normal circadian rhythm.

Several different stages of adrenal fatigue can be diagnosed through salivary testing. During a normal stress response (alarm phase) testing will reveal increased cortisol and increased DHEA. Following exposure to a stressor, increased ACTH will elevate both DHEA and cortisol. Cortisol and DHEA will usually promptly return to normal once the stressor is removed. Patients will experience a general state of arousal during a normal stress response. During a sustained stress response which requires continual cortisol secretion, the adrenal glands will be in compensation (divergence or adaptive phase). You will see increased cortisol and normal DHEA as hormone production is shunted to cortisol at the expense of DHEA. This compensation helps maintain the elevated cortisol
levels. As time goes on, and the stressors continue, the adrenals will start to lose their ability to compensate (maladaptive phase) and testing will show increased cortisol and decreased DHEA. Patients at this time will begin to express a variety of symptoms including heart palpitations, anxiety, irritability, insomnia, and muscle tension. If left untreated, patients will move into a adrenal fatigue/exhaustion phase. Testing will show decreased cortisol and decreased DHEA. The adrenal gland is no longer able to maintain the hormone levels demanded by the ongoing stress. Patients will see a worsening of their symptoms with an addition of sustained and even unrelenting exhaustion.

Treatment of adrenal fatigue is typically straightforward. Patients should start with lifestyle modification and control for external stressors as much as possible. Patients should also employ some type of relaxation technique. A good diet is imperative for adrenal health. Every episode of hypoglycemia triggers a stress response and cortisol release to mobilize stored energy. Have patients include good quality fat, protein and fiber at every meal and snack. I recommend my patients eat 3 meals and 2 snacks daily to keep their blood sugar stable. I also recommend patients remove stimulants. Assessment and treatment of food intolerances and avoidance of fasting are also recommended as these will trigger a cortisol response.

We hear so much about cholesterol being bad that we forget it is the backbone of most of our hormones. Too little cholesterol is just as harmful as too much cholesterol. For patients who have low lipids on testing consider organic dietary sources of cholesterol such as animal products, butter fats, coconut oil and milk.

DHEA should be considered for patients who have low levels on testing and a therapy to bring down elevated cortisol levels. When supplementing with DHEA it can convert to testosterone and estrogen so watch for, breast tenderness, acne and male pattern baldness. These are clues that a patient is getting too much DHEA. For women start low at 5 mg daily and increase as indicated according to symptoms and values on repeat testing. When increasing titrate up slowly by 5 mg increments with 4 days on each dose prior to increasing. The maximum dosage for women is 25 mg bid. For men start at 25 mg daily and a maximum dose of 60 mg bid. I do not recommend DHEA for men with a current diagnosis or history of prostate cancer or BPH.

In the cases where cortisol is too high, consider phosphatidylserine. Some preliminary evidence shows that phosphatidylserine might blunt the rise in cortisol following strenuous training. Preliminary clinical laboratory research suggests that phosphatidylserine might improve mood and subjective feelings of stress. In addition, it can help improve memory status - which can suffer with ongoing stress.

Glandulars can be considered for patients with low cortisol readings. Adrenal glandulars consist of adrenal cortex which contains small amounts of cortisol. Orally, adrenal extract is used for low adrenal function; fatigue; stress; and impaired resistance to illness.

Herbal adaptogens should be considered for all patients with adrenal stress.

**Licorice** is commonly chosen for its adrenocorticoid-like activity. The active constituents, Glycyrrhizin and glycyrrhetinic acid, bind to glucocorticoid and mineral corticoid receptors. It also increases the half life of cortisol by inhibiting its breakdown in the kidneys. When using licorice watch for sodium and water retention. Licorice is contraindicated in hypertensive patients.

**Ashwagandha** (withania somnifera) has shown in research to have a variety of pharmacological effects including analgesic, anxiolytic, immunomodulatory, sedative, anti-inflammatory, and antioxidant effects. It also appears to reduce stress-induced increases of plasma corticosterone. Ashwagandha seems to have anxiolytic effects, possibly by acting as a gamma-aminobutyric acid (GABA) mimetic agent.

**Eleutherococcus** (Siberian ginseng) has a beneficial influence on the body’s adaptive response mechanism associated with stress. Constituents are also thought to be anti-inflammatory, sedative, diuretic, gonadotropic, estrogenic, protein-anabolic, and stimulate the pituitary-adrenocortical system.

**Panax Ginseng** is widely used as a general tonic or “adaptogen” for fighting stress. There is some evidence that it might work against stress by affecting the hypothalamic-pituitary-adrenal (HPA) axis. Panax
 Ginseng might also increase dehydroepiandrosterone sulfate (DHEA-S) levels in women.

**Rhodiola** has been shown in clinical studies to alleviate fatigue, insomnia and improvement in work capacity and accuracy.

**Tongkat Ali** has been seen to have an anxiolytic effect in animal models.

Also consider adrenal supporting nutrients such as Vitamin C for its Antioxidant properties. Pantothenic Acid (vitamin B5) is needed for production of energy and steroid hormones.

**Adaptaicin** by Sanesco contains, Bovine Adrenal Cortex, Ashwagandha, Licorice, Eleutherococcus, Panax Ginseng, Rhodiola, Tongkat Ali, Vitamin C, Pantothenic Acid and Zinc making it a great choice for addressing adrenal issues and fatigue. Through comprehensive assessment, adrenal fatigue can be identified and treated. Restoring adrenal health can solve many patients fatigue and sleep issues.

Reference:


Fahey TD, Pearl MS. The hormonal and perceptive effects of phosphatidylserine administration during two weeks of resistive exercise-induced overtraining. Biol Sport 1998;15:135-44.


Hussain RM. The sweet cake that reaches parts other cakes can't! Postgrad Med J 2003;79:115-6.


A Practical “Tool” For An Integrative Approach

One of the clinical “tools” available to practitioners considering the natural therapy options discussed by Dr Watkins is Sanesco’s Communication System Management (CSM) model. The CSM model is a clinical system designed to help you to assess, monitor, and correct key neurotransmitter imbalances that may be associated with your patients’ symptoms of anxiety and depression. **The CSM model includes three integrated components.**

- The CSM model utilizes a **noninvasive lab assay** measuring neurotransmitter and adrenal hormone levels to establish baseline levels of a patient’s biochemistry. Subsequent testing is used as an effective tool for monitoring treatment.

- As a model of individualized medicine, CSM includes patient-centered analysis of symptoms and lab results. With oversight by Sanesco’s Medical Board, highly trained clinical staff correlates 48 patient-reported symptoms, current dietary and lifestyle factors, supplement and medication intake, to the reported lab results; generating a comprehensive **“Correlation Analysis”** report. This Correlation Analysis report provides you with extensive *patient specific* information to help you open the window to your patient’s neuroendocrine system.

- The third component of the CSM model is using the **nutraceutical supplements** discussed in Dr Watkins’ monograph. Sanesco’s Targeted Nutritional Therapy products are safe and effective options for restoring some of the biochemical imbalances that may be associated with anxiety and depression, as well as other symptoms related to neuroendocrine system function.

Sanesco developed this “CSM” model in collaboration with a team of medical doctors, naturopathic doctors, nutritionists, and researchers. The goal was to provide a practical science-based individualized approach for looking at the key contributors to potential underlying causes of chronic symptoms.

Sanesco provides complimentary training to practitioners on the three components of this model through its CSM **Certification Program**. This exclusive program includes one-to-one interactive training sessions, live webinars, a self-tutorial library, and much more. Contact a Sanesco representative to **enroll today - Call 866.670.5705 and Press “2”**

*The above statements have not been evaluated by the FDA. The products mentioned above are not intended to diagnose, treat, cure or prevent any disease.*

*Not all of the nutraceutical products mentioned in this monograph are distributed by or sold by Sanesco International. Contact a Sanesco representative for more information.*