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## **ADRENAL DYSFUNCTION THE BODY'S RESPONSE TO CHRONIC STRESS BY LINDA RAYNER M.D.**

The adrenals are glands that sit on top of your kidneys. They respond to stress by secreting adrenaline, cortisol, aldosterone and DHEA. Their response to acute stress serves us well but only if the stress is short lived. In modern times however, the stress is no longer just physical or brief. A response also occurs with psychological, emotional, environmental and infectious stress. Prolonged stress can trigger detrimental effects in the body that can progress to chronic disease states. As many as 90% of the population is in some degree of adrenal stress.

Common factors that affect the adrenals include: poor eating habits, caffeine, smoking, lack of sleep, lack of exercise, chronic pain, chronic illness, overwork, surgery, lack of relaxation, stressful relationships, employment instability, emotional trauma, negative attitudes, financial pressures, fear, prescriptions, toxins, allergies and infections.

Symptoms of adrenal stress include: fatigue, difficulty getting up in the morning, increased appetite, carbohydrate cravings, low blood sugar, decreased metabolism, weight gain, low body temperature, difficulty relaxing, insomnia, difficulty concentrating, decreased memory, either low or high blood pressure, postural dizziness, indigestion, ulcers, menstrual irregularities, PMS, decreased libido, impotence, suppressed immune function, allergies, autoimmune disease, bone loss, muscle weakness and pain, dry skin, delayed wound healing, hair loss, cracked nails, suppressed thyroid function, decreased clearance of heavy metals.

The extremes of adrenal dysfunction are Cushing's syndrome (extremely high cortisol) and Addison's disease (inability to secrete cortisol).

There are two tests that can be done at home or in a doctor's office to confirm adrenal fatigue. Shining a bright light in someone's eye should cause the pupil to constrict. With adrenal fatigue the pupil will constrict and then dilate despite continued light. Additionally, blood pressure will normally rise when someone stands up. In adrenal stress the blood pressure may not rise and may even fall after standing up.

Testing is important to know whether your cortisol level is elevated (adrenal overdrive) or depressed (adrenal exhaustion). Additionally DHEA levels must be followed to avoid overdosing on supplementation.

Treatment of adrenal dysfunction can be remembered by the acronym S.E.N.S.E.:

### **1. Stress management and evaluation**

- Evaluate your lifestyle and pinpoint what supports your energy and health, and what is draining.
- Decide whether you can leave the situation, adapt yourself to the situation or adapt the situation to you
- Change your perspective and beliefs about the situation
- Practice a relaxation technique, like abdominal breathing, progressive relaxation, guided visualization, meditation yoga, tai chi or chi gong.
- Do something pleasurable every day. Notice one thing that you are grateful for every day.

### **2. Sleep**

- Lack of sleep can worsen adrenal stress. Conversely, abnormal cortisol can worsen sleep



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- Make sure to establish a regular bedtime and wake-up time. Try to be in bed before 10pm and if possible sleep until 9am.
- Do something calming in the hour before bedtime.
- Watching TV or computer work may prevent a rise in melatonin, which is the usual result of dimmer evening lighting.
- Avoid exercise within three hours of bedtime.
- Limit fluids in the evening, especially caffeinated beverages.
- Natural supplements that can aid sleep include melatonin, 5-HTP, magnesium, valerian, St John's Wort.

### 3. Nutrition - a cornerstone for all health challenges.

- Small frequent meals will help keep blood sugar levels even
- Avoid skipping meals, especially in the morning
- Choose whole natural foods, preferably organic to avoid the toxicity of pesticides.
- Avoid products that are high in sugar and white flour.
- Choose a wide variety of colorful vegetables for greater nutritional content.
- Avoid fruit in the mornings as the sugar content makes the blood sugar levels rise too high and then quickly drop.
- Choose foods that have a lower glycemic index i.e. they raise blood sugar slowly. These are foods that contain more fiber or fat e.g. whole wheat bread instead of white bread.
- Avoid unhealthy fats, like hydrogenated oils, deep fried foods and animal lard
- Include adequate essential fatty acids (those that can't be made in the body) from good omega-3 sources like cold-water fish, flax seeds, walnuts, soybeans and dark green vegetables.
- Avoid caffeinated beverages (coffee, black tea, colas and chocolate), which over-stimulate the adrenals and drive up blood sugar even if they are unsweetened. Better choices would be green and herbal teas, vegetable juices and lots of clean water.
- Cow and soymilk can both be allergenic and can be replaced with rice or nut milks.
- Drink an 8oz glass of water with ½ tsp sea salt in the morning to rehydrate your cells.
- Supplement with digestive enzymes to support your digestive process.

### 4. Supplements

- Vitamin C 1000mg 2-4x/day (Esther C+bioflavanoids) especially at 2pm to avoid afternoon low.
- B complex 50-100, with extra vitamin B5 (pantothenic acid) 1500mg
- Vitamin E mixed tocopherols 800IU/day neutralizes damaging free radicals
- Calcium (800mg), magnesium (400mg) and trace minerals work to support adrenal processes.
- Chromium 200-400mcg to help symptoms of hypoglycemia
- Adaptogenic herbs help the adrenals function more towards normal levels. Some examples include Siberian ginseng, ashwagandha, and rhodiola.
- Other substances that can control elevated cortisol levels include phosphatidylserine, beta-sitosterol and magnolia bark.
- For low cortisol levels licorice and adrenal glandulars can boost adrenal function.
- Calming herbs may be helpful for unwinding and improving sleep. E.g. valerian, St John's Wort, 5-HTP, and melatonin.
- Low DHEA levels can be supplemented to improve energy, mood, memory, and libido, promote weight loss.



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5. **Exercise** normalizes levels of cortisol, insulin, and glucose, and provides the brain with more oxygen. Make sure not to push yourself to exhaustion. Even light physical activity can provide many benefits.

Resources: "Adrenal Fatigue" by James Wilson D.C.; "The Cortisol Connection" by Shawn Talbot PhD.

*The following statements and/ or supplements have not been evaluated by the FDA. The FDA suggests that you consult with a health care professional before using any dietary supplement. This product is not intended to diagnose, treat, cure or prevent any disease.*