Cortisol Imbalances

Cortisol is a hormone produced by the adrenal glands in response to ***stress***. Cortisol governs your hunger cravings, digestion, blood pressure, sleep/wake patterns, physical activity, and capacity to cope with stress. Stress can be emotional, physical, spiritual and even chemical. It belongs to the *glucocorticoid* family—substances that can raise your glucose. This is cortisol's job: to increase your glucose and store excess in the liver. Glucose gives you energy. As the most potent glucocorticoid, cortisol keeps us alive by raising blood sugar, increasing blood pressure and modulating inflammation.

Stress is unavoidable, rampant, and growing. It is part of life. It's not a bad thing in itself. Under normal conditions, your body produces a brief surge of cortisol that is beneficial and protective. It is also known as the "fight or flight" hormone. The stress reaction is an appropriate alarm. Once you respond and cope with the situation, your cortisol should return to normal levels. However, for many women, that cortisol surge never turns off. We struggle with unrelenting stress and hypervigilance. It affects our hunger and digestion. Extra glucose is stored in our mid-section and it interferes with our sleep. The worst part is that we are most responsible for manufacturing most of our own stress. When cortisol is chronically elevated, it will impair other hormones such as estrogen, progesterone and the thyroid. **High cortisol** levels can also be attributed to hair loss, infertility, thyroid problems, bone loss and that stubborn fat around your belly.

Low cortisol is the end game of an overtaxed stress-regulating system. Perpetual activation of the stress mechanism leads to increased cortisol production. Over time the system erodes leading to underactivity. And soon your adrenal glands are unable to make a normal amount of the stress hormone. This is probably why you are experiencing symptoms such as fatigue, loss of stamina, feeling stressed most of the time, feeling overly emotional, falling sick with colds and flus, experiencing depression and/or lethargy, low blood pressure, salt cravings and a difficulty in falling and staying asleep.

ELEVATED CORTISOL

Health risks linked to high cortisol

- Abnormal blood sugar, diabetes, and prediabetes
- Obesity, increased body fat, and metabolic syndrome
- Mood and brain problems, including depression, Alzheimer's disease, and multiple sclerosis
- Delayed wound healing
- Infertility and polycystic ovarian syndrome
- Worsening sleep
- Bone loss in menopausal women

LOW CORTISOL

Causes of low cortisol

- Primary adrenal insufficiency (Addison's disease)
- Congenital adrenal hyperplasia
- Secondary adrenal insufficiency
- Hypopituitarism
- Hypothyroidism
- Trauma
- Late stage of stress

Consequences

- Electrolyte problems
- Fibromyalgia
- Chronic fatigue syndrome
- Bone loss and possible fracture
- Burnout

Julianne Dunne, MD ⌘ WESTMED ✉ 3030 Westchester Avenue ★ Purchase, NY 10577 ☏ (914) 848-8668

Start with **lifestyle redesign**

- Optimize nutrition
  - Eliminate sugar and artificial sweeteners
  - Eliminate gluten containing grains as most are genetically modified
  - Eliminate processed foods
  - Choose non-starchy vegetables
  - Eat fruits low in sugar such as berries
- Wean from caffeine and limit alcohol
- Exercise
  - Cardiovascular exercise will raise cortisol so best to do in morning or at least 2 hours before bedtime
  - Meditative practices will help lower cortisol
- Mental retraining
  - Meditative practices
  - Therapeutic massage
  - Try acupuncture

Nutraceuticals

- ❑ **Vitamin B_5** 500 mg/day
  Pantethine (B_5) appears to reduce the hypersecretion of cortisol in humans under high stress.

- ❑ **Vitamin C** 1,000 mg 3x/day (start with 1,000 mg, if diarrhea noted, decrease dose)
  Shown to lower cortisol in surgical patients and children in stressful situations. Exercise that pushes you to a maximal capacity also raises cortisol. Vitamin C is a safe supplement to add to your regimen. Adult doses to lower cortisol levels were 1,000 mg three times per day, for a total dose of 3,000 mg per day. A dose of 1,500 mg of vitamin C has been shown to decrease post-race blood cortisol levels in marathoners. Some people may experience loose stools at these doses. Start with 1,000 mg and adjust as tolerated.

- ❑ **Fish oil** (Omega 3) 3,000 mg/day
  Men and women who took 4,000 mg of fish oil for six weeks lowered morning cortisol to healthier levels and increased lean body mass. Fish oil lowers cortisol levels that were increased by mental stress. Plus it is really good for your heart. People live longer when they take omega 3 particularly from a fish oil source. And it is also beneficial for your hair and skin as well as vision and memory!

  The Hormone Cure. Sara Gottfried, MD