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“I’ve Got (Adrenal) Rhythm – Who Could Ask For Anything More?”

How managing your body’s reactions to stress can improve your sleep, energy, blood sugar balance, weight loss, memory, and mood – and make you feel like dancing again...

By Bill Caradonna, R.Ph., N.D.

A common belief is that our lives today are more stressful than our ancestors. But the early caveman being chased by a saber tooth tiger might disagree. He was equipped with the ability to respond to stress as a survival mechanism, and so are we. Long ago, our bodies were built with a “fight or flight” response when we needed a burst of energy. This comes from adrenaline or epinephrine, produced by the adrenal glands. The adrenals also provide a daily energy cycle by producing cortisol. Normally, this adrenal output starts around 4 a.m., peaks at 8 a.m., tails off during the day, and becomes low at night so that we can sleep. When this rhythm is disrupted, it is difficult for us to maintain our energy, sleep well, keep our blood sugar balanced, avoid excess weight gain, and keep a stable mood.

Our bodies were not built to tolerate chronic stress...

Stress isn’t always bad. There is positive stress that creates achievement, for example through mental activities or athletic competition. A significant problem occurs when stress becomes chronic. This causes the adrenals to overwork, first producing high cortisol levels in our body for an extended period of time. Without sufficient adrenal support in these periods, adrenal fatigue then occurs. During these periods, DHEA and sex hormone production is lowered, and digestive efficiency suffers.

Chronically increased production of stress hormones is likely to lead to fatigue, insomnia, hypoglycemia & diabetes, poor memory, depression, high blood pressure & heart disease, obesity, muscle wasting, osteoporosis, decreased skin healing and regeneration, decreased immune function, and increased susceptibility to infections, allergies, and other degenerative diseases.

Inadequate sleep...

Quality sleep is defined as falling asleep easily, staying asleep, sleeping deeply, and waking up refreshed. Today in developed countries, adults sleep about 7 hours a night, down from 9 hours in 1910. An adequate amount of sleep is as important as an adequate amount of exercise.

Sleep onset difficulties can often be blamed on Thomas Edison. The development of artificial light negatively affects the pineal gland’s production of

melatonin, our bodies primary sleep inducing chemical. Our sleep rhythm is also disturbed in shift workers, on-call doctors, and parents of young children. This can result in seriously impaired functional abilities.

Sleep interruption or early morning awakening is often due to the adrenal glands producing high cortisol levels at the wrong time due to overcompensating for chronic stress exposure. Also, low blood sugar episodes can occur in the middle of the night, triggering the adrenal glands to wake you up. People with depression often have early morning awakening. After a period of poor sleep, we often need loud alarm clocks to wake up – jolting the adrenals into action – which actually exacerbates the problem in the future.

In addition to contributing to adrenal fatigue, chronic sleep loss itself may also decrease growth hormone production. Growth hormone deficiency is associated with reduced muscle mass and strength, increased fat tissue, weakened immunity to infection, and other declining health conditions. Also, chronic sleep loss can reduce the capacity of even young adults to perform basic metabolic functions such as processing and storing carbohydrates or regulating hormone secretion.

When a lack of sleep raises levels of certain adrenal hormones, inflammatory cytokines increase. These have been linked to numerous degenerative diseases such as cancer, cardiovascular disease, rheumatoid arthritis, osteoporosis, and neurodegenerative disorders such as Alzheimer's disease.

Don't touch that donut...

When our adrenals are overworked, we often crave sugar or refined carbohydrates as an energy source. When our blood sugar levels then rapidly increase, the pancreas dumps lots of insulin in the bloodstream to bring the level down. This often creates overcompensation, and the insulin will lower the blood sugar level too much. We then feel hypoglycemic – fatigue, irritability, headache, immediate hunger, etc. This causes the adrenals to produce extra cortisol as a stress response to try to create fuel for the body through alternate biochemical pathways. We surf the sugar wave all day cycling through these energy highs and lows. High levels of insulin and cortisol results in more fat being formed and stored. Trying to lose weight without correcting these imbalances can be very difficult. Later, the pancreas can become worn out and stop producing sufficient insulin, causing diabetes.

I have one nerve left and you are standing on it...

Because Americans are often short of sufficient sleep and have poor dietary habits, we often compensate for our resultant fatigue with an increased intake of caffeine. While the caffeine often gives us a short term boost by stimulating the release of norepinephrine, it does not nourish the adrenals. This is similar to a jockey whipping a tired horse during a race, but not having had it fed a healthy

diet to give it energy. The false “up” that caffeine provides can also cause a dip “down” later. Having another cup of coffee or can of soda is not the answer. This nervous system overstimulation often increases anxiety reactions. Caffeine use can also make it difficult to fall asleep, because the nervous system is still too revved up even though we may feel fatigued at the end of the day. Vitamin B-12 is useful here because it can relieve fatigue by supporting the nervous system, and normalize circadian rhythms, thereby allowing people to enter sleep without stress or tension.

Getting your rhythm back even if you have two left feet...

Naturopathic medicine has many tools to help you regain your hormonal rhythm. First, some testing may be necessary to identify your imbalances so they can be corrected. An Adrenal Stress Index test identifies your DHEA status and cyclical cortisol levels by collecting saliva samples throughout the day. If nighttime cortisol is high, certain herbal and nutritional products can be used to lower it, giving you a better opportunity for a good night’s sleep. DHEA can be supplemented (best monitored by a physician) to improve energy. Blood testing is commonly used to identify your fasting glucose levels, but it is also important to test fasting insulin levels.

Eating correctly to avoid hypoglycemia is a cornerstone of treatment. Certain supplements are often used to help you maintain blood sugar balance initially, until your body can do it on its own. Once this is achieved, weight control can be managed with further nutritional advice and non-harmful dietary supplements.

Exercising for at least 30 minutes everyday can help you fall asleep better. (But it is best not to exercise in the evening close to bedtime). Meditating or giving yourself 30 to 60 minutes to wind down from daytime activity before bedtime will cue your body to get ready to settle down for the night. Resistance training has been shown to lower elevated fasting insulin levels.

Naturopathic herbal and nutritional products are both very helpful in repairing and rebuilding normal adrenal function. B-12 injections are often a shortcut to better energy, sleep, mood, and memory for many people. You could be snapping your fingers and tapping your toes to better adrenal rhythm in no time!

About the Author – Bill Caradonna, R.Ph., N.D. is a registered Pharmacist and Licensed Naturopathic physician. He is a graduate of Bastyr University where he also was a faculty member. He has been in the natural medicine field for over 20 years, and is in private practice at the Queen Anne Naturopathic Center in Seattle, WA. More information can be found at www.QANC.com