

# SIntractable Pain Syndrome Research & Education Project

**CHRONICLE 98** 

## **IPS DEPLETES CORTISOL-ADRENAL STORAGE (RESERVE)**

#### FATIGUE, DETERIORATION, MORE PAIN

IPS is defined as constant, incurable pain with cardiovascular and endocrine (hormonal system) complications. This chronicle describes one of the most common complications of IPS, which is the depletion or reduction of cortisol storage (reserve) in the adrenal gland.

#### EVER WONDER WHY YOU ARE TIRED OR FATIGUED?

The hormone glands in the body, including the thyroid, pituitary, pancreas, ovaries, testicles, and adrenals all make one or more hormones, and then stores them in the gland for times when the body needs extra. For example, the pancreas puts extra insulin into the blood stream after a meal. The thyroid pumps out extra thyroid hormone in cold weather. The adrenal glands release extra cortisone and adrenaline into blood to help heal tissue injury or "cure" disease and provide energy during stress. The endocrine glands are designed to work in balance to always keep the body in a state of balance, or homeostasis, ensuring that all the organs are functioning properly. When any one of them is malfunctioning, or stressed, this balance is interrupted and it affects the entire body, causing dis-ease, (disease).

Early morning is when cortisol and adrenaline are the highest in the blood to help one arise, become active, and start the day. These hormones are the lowest in the late evening which is accompanied by sleepiness and need to take to the bed. If you don't have enough cortisol and adrenaline in storage, (or reserve), you will become quite fatigued and exhausted in late afternoon and early evening. If you have really poor adrenal storage and reserve, you will be fatigued and exhausted before lunchtime, and it will be difficult to remain active.

#### HOW CONSTANT PAIN EXHAUSTS GLANDS AND HORMONES

After any acute injury such as a cut, burn, or bee sting, the adrenal gland pumps out lots of cortisol and adrenaline to suppress pain, and to quickly heal the injury. After the injury is healed, the adrenal gland returns to its former function and will maintain a good storage (reserve) of both cortisol and adrenaline.

If pain is constant, the adrenal gland is forced to continuously pump out cortisone and adrenaline. Consequently, storage and reserve are reduced. This development is hazardous as you simply don't have enough cortisol and adrenaline to suppress fatigue, pain, depression, and inflammation, consequently your basic underlying disease such as adhesive arachnoiditis (AA), EDS, or RSD/CRPS will likely worsen and progress.

### STRATEGIES TO MAINTAIN ADRENAL GLAND STORAGE

#1. Seek maximal pain reduction and some pain free hours. Give your adrenal glands some time to recover.

#2. Avoid or minimize stress. Beginning each morning each task or duty you do during the day uses up a little of your adrenal storage. Any extra physical or mental stress or strain accelerates depletion of storage. Avoid all the little stresses as much as you can throughout the day, or you may find yourself exhausted and mentally dysfunctional by nightfall.

#3. Many IPS patients take adrenal gland supplements, which are now available in health food stores or on the internet. Favorite brands/types include adrenal "cortex," raw adrenal, and Adrenaplex. <sup>®</sup> Licorice root, ashwagandha, and rehmannia are some plant-based medicines reported to be helpful. These have been effective in many patients with IPS. Many IPS patients report decreased pain and increased energy and motivation. Follow label instructions. You can usually add an extra tablet or capsule.

REFERENCE: Tennant F. The Physiological Effects of Pain on the Endocrine System. PAIN THER 2013; 2:75-85.

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