

# Healtheorium®

By Mimi Borger

## *"Which came first: inflammation or stress?"*

“Come on you guys!” My older sister’s shout echoed through the woods. “There’s the ski jump! Let’s run down!” My brother scrambled over the gate after her, and they took off running, laughing and screaming, disappearing down the shaft of wood into the forest. Being the youngest and not to be left behind, I hurried after them. Laughing out loud, I ran headlong, descending through the cool summer air. Quickly losing control of speed, my skinny legs felt light and airborne, almost disconnected from my will. They virtually flew out from under me, barely springing from the planks, responding just in time to jump over low metal hurdles placed every 40 feet. Slightly panicked, my initial laugh was stifled by intense focus. Only the pounding of my toes on boards beneath me and the sound of my labored breath resounded wild within my head. At the end of the jump, by the grace of goodness, the three of us rolled and collapsed, all in tact and hysterically amused. Dangerous and forbidding, exciting and exhilarating, that ski jump run remains for me a unique memory.

Years later, as an adult, I suffered an injury resulting in extreme pain. Like my legs flying out of control, my brain hurled itself in quick descent. A virtual chemo-fest of brain activity ensued and from deep within my brain, the little hypothalamus released Corticotrophin Releasing Hormone (CRH), which in turn stimulated other glands to produce a cascade of stressor signals and steroid hormones like cortisol, epinephrine and norepinephrine. Thus began a series of events within my brain as it spewed forth chemicals and hormones, such as glucocorticoids. Glucocorticoids are a class of steroid hormones involved in glucose metabolism. They serve as potent anti-inflammatory drugs, suppressing the immune system. Often used as pharmaceuticals to treat conditions such as arthritis, dermatitis, allergic reactions and autoimmune diseases, in excess, they can adversely affect many systems. If by nature they are not brought under control or stopped, the imbalance or overload can lead to (among other things) suppression of the immune system (creating susceptibility to illness), chronic inflammation, autoimmune disease, hyperglycemia, bruising, increased blood pressure, memory loss, disorientation, fatigue, sleepiness, changes in behavior, depression and anxiety.

In attempting to bring my pain under control, I spent months in physical therapy, sought relief with pain patches, “TENS” (electric) stimulation, and traction. At the behest of well-meaning doctors, I added pharmaceuticals to my healing regimen. In desperation, I succumbed to epidural hydrocortisone injection, and doses of over-the-counter painkillers. For two years, every few days, I took an acetaminophen/codeine combo tablet, finally realizing that the frequent and annoying hot flashes I was experiencing were daily withdrawals from that medication. Finally, forsaking all else, I turned to acupuncture and yoga. The acupuncture treatments and yoga exercises, among other things, stimulated my frazzled nerves, sending messages to my brain which in turn increased good anti-stress chemicals like dopamine and serotonin, and caused the release of endorphins, balancing and increasing my body’s own natural painkillers.

Inevitably, laughter trumped pain and helped to restore my body’s equilibrium. Without question, laughing reduced stress hormones and strengthened my immune system. Daily doses of laughter relaxed my muscles and triggered the release of endorphins. Humor provided good cardiac exercise, boosted my blood circulation, and lowered my blood pressure. The muscles of my face, abdomen, and entire body got a laughing workout. My lungs were cleared and cleansed with increased oxygen and rejuvenated intracellular energy. Laughter was distracting and just the act of laughing stimulated production of positive brain-altering chemicals. In other words, laughter boosted my immune system and helped counteract the destructive, negative physical and mental health consequences of chronic pain and stress.

As an older and wiser person, I remember the fright and exhilaration of the ski jump run. I have no more desire to run down a jump again as to slip another disc. I try to stay within my own physical and mental stress

limitations and enjoy daily laughter.

As a friend of mine recently noted, “It’s a pity we have to live so much of life to figure out what happened!” and as Ella Wheeler Wilcox wrote in the 1800’s: “Laugh and the world laughs with you...”

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