Smart Life Forum

Presents

James L. Wilson, ND, PhD

on

Adrenal Fatigue, Metabolic Syndrome, & Stress Adaptation

Thurs, July 16, 2009, 7 PM
LOCATION: Cubberley Community Center – Room H1
4000 Middlefield Rd
Palo Alto, CA

FUTURE SPEAKERS

Aug 20, F. Shallenberger,MD

Sept 17, Gar Hildenbrand

October 15, Gary Taubes

Short Presentation: Phil Jacklin, PhD, will present Part II. Prevention and Reversal of AD with the Big Three: Coconut Oil, Niacinamide, and Curcumin.
He will also provide an overview of the new science including ketone biochemistry and UC Irvine's report on niacinamide and UCLA report on curcumin.
An expanded packet on the Newport Case Study and the MCT Ketogenic Therapy will be distributed.

Meet James L. Wilson, ND, PhD

One of the few people to hold three doctorate degrees and two master's degrees, all from different disciplines, Dr. Wilson received his Ph.D. in Human Nutrition from the University of Arizona, with a dissertation in cellular immunology; and holds degrees as a Doctor of Chiropractic and Doctor of Naturopathic Medicine. His master's degrees are in Bio-nutrition and Experimental Psychology, all-in-all totaling 24 years of post-secondary education.

Dr. Wilson was one of 14 founders of the Canadian College of Naturopathic medicine (CCNM) in Toronto, Ontario, now one of the largest naturopathic colleges in the world. Dr. Wilson currently resides in Tucson, Arizona.

During his 28 years of private practice, Dr. Wilson dedicated himself to helping people regain their health and vitality and continues to pursue that purpose on a wider scale through his current activities of teaching, writing, research and formulation. For the past 15 years he has lectured extensively to physicians and is acknowledged as an expert in alternative medicine. Over his lecturing career, Dr. Wilson has spoken at some of the most prestigious medical conferences including: The American Academy of Anti-Aging Medicine (A4M); the American Academy for Advancement in Medicine (ACAM), the American Academy of Environmental Medicine (AAEM), International Functional Medicine, (IFM) and the Brazilian Association of Anti-Aging Medicine. Last year he was invited to speak at the Royal Society of Medicine in London, England.

With a researcher's grasp of science and a clinician's understanding of human health and disease, he has helped many thousands of physicians master both the physiology and the treatment of a number of health disorders. His lectures to professionals and the public are filled with practical information presented in a light and entertaining manner.

Dr. Wilson's book, *Adrenal Fatigue: The 21st Century Stress Syndrome*, a comprehensive self-help book on the diagnosis and treatment of low adrenal function, is in its 13th printing.

He has been president of Future Formulations, a dietary supplement company since 1992.

Main Presentation

Our Current Stress Loads

The combined near perfect storm of several events in our country and throughout the industrialized world have led to stress levels not often experienced in individual lives.

Not only is the stress more intense, but it seems never ending.

Finances alone can turn into multiple sources of stress because of the simultaneous drop in home equity values (for 2/3rds of Americans, the major source of their net worth); decline in retirement funds of 1/3 to 1/2 that leave many without sufficient funds to retire; unemployment or lack of job security; uncertainty about where to make safe investments; loss of confidence in institutions that had been traditional pillars of strength; collapse or reorganization of finance giants that could be counted on for financial strength and steady financial returns (Bear Sterns, AIG, Citibank, Lehman, etc); cities in bankruptcy; states near bankruptcy; cuts in government services; and a general uncertainty about the future.

Added to the stresses of financial problems is the usual frantic lifestyle of Americans and others in industrial nations: extra busy schedules that lead to poor quality food eaten on the run; too little exercise or relaxation time; frustration with the slow speed of things from commuter traffic to resolving a computer problem; and all the other quality of life trade-offs that can occur for a life lived in the fast lane.

Personal health issues can often become huge sources of stress in addition to the actual health problem. The entire medical system has become increasingly depersonalized and frustrations with it have soared because of higher costs of insurance, impersonal doctors who no longer have time to answer questions you have waited weeks to ask, unexpected changes in medical coverage or care, and the justifiable fear that submitting to a hospital procedure is like getting your fingers caught in a ringer washing machine - rendering you unable to control or properly evaluate the procedures being carried out on you. In short, Americans and people in most developed nations share increasing levels of stress in their daily lives combined with a sense of helplessness about changing it.

Dr. Selye's "General Adaptation Syndrome"

Dr. Hans Selye, in his book The Stress of Life, brought to light the toll stress takes on the body - how it leads to a decrease in ability to respond to future stresses and contributes greatly to the process of aging. Through his work, including over thirty books and several hundred research articles, he uncovered many of the mechanisms of stress and introduced the concept of the "General Adaptation Syndrome" (GAS). This concept was based on Selye's ground breaking research that explained the physiological responses of his experimental animals to stress. Over several decades of experimenting with many species of animals, he showed that the general adaptation syndrome was similar for all animals, and generalized this to humans.

Dr. Selye found that there were three phases to GAS: the alarm phase, phase of resistance and phase of exhaustion. During the alarm phase when the initial extreme stressor was applied to the animals, the glands responding to the stress were shown to primarily be the adrenal glands. In fact, Selye considered the adrenal glands so important to the animals' responses to stress, that he dubbed them, "the glands of stress."

Alarm Phase ↑

In the alarm phase, the adrenal glands, two small glands that sit over the kidneys, secrete large amounts of a hormone called cortisol that goes to nearly every cell in the body. Cortisol helps the body adapt to stress in a variety of ways, in addition to protecting the cells from many of the ill effects of stress. In fact, acute stress can cause the animals to produce so much cortisol that the cortex (outer part) of the adrenal gland may hypertrophy in order to produce the amount of cortisol needed for initial phase of the stress response.

The adrenals make cortisol from cholesterol, in fact from LDL cholesterol, the so called "bad cholesterol" everyone is trying to get down to zero before their next medical exam so they can call themselves healthy. In a very complicated multi-step process, cholesterol is converted into cortisol to meet the demands precipitated by stress. Cortisol is so critical to life that the adrenal cortex has the capacity to make its own cholesterol from scratch if sufficient LDL cholesterol is not available from the usual sources of the liver's manufactured supply or ingested food.

During the production of cortisol, the adrenal gland also uses up considerable quantities of vitamin C. In fact, in the early days of Dr. Selye's research before cortisol measurement was used to directly assess adrenal activity, researchers used the rate of disappearance of vitamin C from the blood stream as an indirect indicator of an animal's stress load and the activity of its adrenal gland. All animals except for humans and guinea pigs make their own vitamin C. The adrenal gland uses more vitamin C than any other organ or gland, and even has repositories throughout its cortex to store tiny amounts of vitamin C - a vitamin not usually stored in the body. The increased amounts of cortisol produced during the alarm phase cause a variety of actions in various tissues of the body that defend against the many negative effects of excessive stress. For example, to help generate the extra amount of energy required by the body during stress, cortisol precipitates the conversion of stored fats and proteins in the liver and striated muscles into

glucose. Glucose (blood sugar) provides fuel for cellular energy production and is essential for brain function. It helps prepare the animal for fast action and the quick thinking it needs to survive stressful situations. In addition, the higher levels of cortisol and blood sugar cause the pancreas to secrete more insulin in order to move the raised blood sugar into cells and to protect the brain from too much glucose. This ensures that the brain and the body can continue to work at their optimum capacity to help the animal survive the stressful situation.

But for all its benefits, cortisol also takes a toll if it continues to remain elevated. The immune system can be almost entirely shut down during this time. In fact, Selye's animals showed near complete atrophy of the thymus gland, the gland responsible for making the "generals" of the immune system, mature T-lymphocytes (white blood cells). Elevated cortisol also shrinks and considerably decreases the activity of lymph nodes, which are important suppliers of lymphocytes and other immune functions. Every white blood cell has cortisol receptors on it, so when cortisol levels become very high, the immune system responds by shutting down in a concentration dependent manner, i.e. the more cortisol in circulation, the less the immune system is operative. This acts selectively to conserve cortisol and generate energy to be used in the perceived battle for survival (stress).

When the stressful event is over and the animal has survived, it goes into a brief recovery phase where the body becomes less active. The animal retires to a safe place, sleeps more and generally recuperates. You have experienced this to some degree when, after a particular event, you feel your body suddenly relax and you say, "Whew, I'm glad that's over," or after a particularly stressful day, you walk into the house, flop on the couch and say, " Nobody talk to me until I get up." To a minor degree, this is what happens during the recovery phase of stress when the adrenals, along with the rest of the body, rest and refortify.

Resistance & Exhaustion Phase

If, however, the stress persists, the body enters into what Selye called the "phase of resistance." During this phase the animals were able to withstand even more of the stressor applied to them. Their cortisol levels remained above normal and they adapted to the stress. However, if the stress became prolonged, as it did in his animals, their adrenals could no longer sustain their response to the stress and they suddenly gave out. This response collapse he called the "phase of exhaustion." In this phase the animals were not able to handle even small amounts of stress without adverse reactions. It was reported that in some instances, the small stress of an experimenter coming into the room and clapping his hands was enough stress to cause the animal to die. During the phase of exhaustion, the animals had greatly reduced capacity to endure stress and often died.

Dr. Selye and other researchers have made generalizations to humans from his many experiments showing the GAS reactions in animals. However, more recent research has challenged or even reversed some of his findings in humans. Some of the most important practical ramifications of this research will now be discussed .Dr. Wilson will examine the two faces of stress adaptation in our own lives and the lives of those around us at this July 16 SLF meeting

In a light and entertaining way, he will explore how the recent prevalence of adrenal fatigue and metabolic syndrome are related, and the tremendous amount we can do to balance the effects of stress on our bodies and compensate for stressful life events and stressful lifestyles. Both adrenal fatigue and metabolic syndrome are in epidemic proportions in the US and in most industrialized nations.

Unchecked, metabolic syndrome progresses to diabetes and heart disease. Adrenal fatigue leaves people living a "grayed-out" existence unable to achieve their potential and limping through life". This presentation will link these two common health problems so that those present will be able to see the connection and take steps to help themselves, their family and their friends. Because so many in the general population suffer from one or the other or possibly aspects of both, this is a timely presentation that you won't find in printed material, but is never-the-less very important for everyone's health. He will focus on what you can do to limit and even reverse both these health nemeses.

For more info see :http://www.adrenalfatigue.org/

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