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Life Extension Update Exclusive

DHEA helps improve immune function

The Experimental Biology 2004 meeting held in Washington, DC was the site of a presentation by Dr John L Zenk of the Minnesota Applied Research Center in Chanhassen, Minnesota, and Dr. Michael A. Kuskowski of the Veterans Administration Medical Center in Minneapolis, concerning the findings that 7-oxo-dehydroepiandrosterone (also known as 7-keto tm) improves immune function in older individuals. The duo presented the results of a study in which healthy adults who took the supplement twice daily for one month experienced an improvement in several T-cell mediated immune function parameters compared to those who received a placebo.

DHEA is a hormone whose decline with aging is believed to contribute to some age-associated conditions, including impairment of immune function. The decline in immune function that occurs in older individuals can predispose this population to increased susceptibility to infection and even cancer.

7-oxo DHEA is a derivative of DHEA that also declines with age and has been demonstrated to promote T-cell function in human lymphocytes (a type of white blood cell). Of the three types of immune system response, T-cell, or cellular immunity is the one in which abnormalities have been most consistently found in older individuals. People with impaired cellular immunity frequently have a less than optimal response to flu vaccination, rendering the vaccine less beneficial.

Dietary supplements such as 7-oxo DHEA may someday become widely used as immune system modulators, particularly as the older percentage of the population increases.

Protocol

DHEA Replacement Therapy

DHEA has been shown in numerous animal studies to boost immune function via several different mechanisms. Only limited human studies have been done to measure DHEA's effect on the immune system.

In one study that focused on men, scientists proposed that the oral administration of DHEA to elderly men would result in activation of their immune system: nine healthy men averaging 63 years of age were treated with a placebo for two weeks followed by 20 weeks of DHEA (50 mg a day). After two weeks on oral DHEA, serum DHEA levels increased by 3-4 times. These levels were sustained throughout the study. Compared to the placebo, DHEA administration resulted in:

- An increase of 20% in IGF-1. Many people are taking expensive growth hormone injections for the purpose of boosting IGF (insulin-like growth factor) levels. IGF is thought to be responsible for some of the antiaging, anabolic effects that DHEA has produced in previous human studies.
- An increase of 35% in the number of monocyte immune cells.

- An increase of 29% in the number of B immune cells and a 62% increase in B-cell activity.
- A 40% increase in T-cell activity even though the total number of T-cells was not affected.
- An increase of 50% in interleukin-2.
- An increase of 22-37% in natural killer cell (NK) numbers and an increase of 45% in NK cell activity.

No adverse effects were noted with DHEA administration.

<http://www.lef.org/protocols/prtcl-041.shtml>

Featured Products of the Week

DHEA 15 milligram capsules

In 1981, the Life Extension Foundation introduced DHEA (dehydroepiandrosterone) to its members through an article that described the multiple benefits that this hormone might produce. However, the general public did not learn about DHEA until 1996, when the benefits of DHEA were touted by the news media and in several popular books.

DHEA became credible to the medical establishment when the New York Academy of Sciences published a book entitled DHEA and Aging. This book provided scientific validation for the many life extension effects of DHEA.



It has been shown that the hormone DHEA often declines 80-90% by age 70 or later, leading to hormonal imbalances that can affect one's quality of life. Peak blood levels of DHEA occur at approximately age 25, decreasing progressively thereafter. Thus, scientists have been looking at ways of restoring DHEA to youthful levels, and are now discovering mechanisms by which this hormone protects against age-related decline.

<http://www.lef.org/newshop/items/item00454.html>

7-Keto DHEA

7-Keto DHEA is a metabolite of the hormone dehydroepiandrosterone (DHEA). Each capsule contains 25 milligrams 3-acetyl-7-oxo-dehydroepiandrosterone.



<http://www.lef.org/newshop/items/item00658.html>

Life Extension Magazine March 2004 issue

The DHEA debate

One of the most confusing issues in health care today is the role of DHEA in antiaging. While some promoters claim that it is a magic bullet that will confer health and longevity, others state emphatically that it has no value or is actually dangerous. Consumers are left in a quandary. Concluding that it is better to be safe than sorry, millions of Americans ignore what may be one of the most important antiaging, health-sustaining substances available today.

Stephen Cherniske, MS, is a biochemist with more than 30 years of academic, clinical, and research experience. He was an adviser to members of the US Olympic team, served on the faculty of the American College of Sports Medicine, and taught clinical nutrition at the university level for over a decade. His 1996 book, *The DHEA Breakthrough* (Random House), was an international best-seller that helped launch the anti-aging movement worldwide.

In 1998, he was chosen to direct the Bioregenics Project, an international research effort to explore the physiology of aging. In 2001, the project was completed with an independent, double-blind, placebo-controlled human clinical trial demonstrating that the underlying causes of aging can be modified by nutrition, diet, and lifestyle.

This remarkable three-year research project forms the basis for his latest book, *The Metabolic Plan* (Random House, 2003). Between 1996 and 2003, Cherniske conducted hundreds of interviews and presented more than 1,000 hours of lectures to professional and lay audiences. In these interviews and scientific conferences, he encountered tremendous resistance to the use

of DHEA. At the same time, more than 3,000 scientific studies on DHEA were published, leading to a clear understanding of the chemistry, function, and clinical value of this important hormone.

http://www.lef.org/magazine/mag2004/mar2004_cover_dhea_01.htm

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