

**Fruits and Vegetables
Cut Non-Hodgkin's
Lymphoma Risk**

Diets that are high in fibrous fruits and vegetables such as tomatoes, broccoli, and cauliflower reduce the risk of developing non-Hodgkin's lymphoma, according to Yale University researchers. Conversely, consuming foods that are high in animal protein, saturated fat, eggs, and dairy products leads to an increased risk of developing the disease. Non-Hodgkin's lymphoma is a cancer that attacks the lymphatic system, part of the body's immune system.

"An association between dietary intake and [non-Hodgkin's lymphoma] is biologically plausible because diets high in protein and fat may lead to altered immunity, resulting in increased risk of [non-Hodgkin's lymphoma]," said principal investigator Tongzhang Zheng, MD. "The antioxidants found in vegetables and fruits may result in reduced risk of about 40%."

The study was conducted between 1995 and 2001 on 601 Connecticut women aged 21 to 84 who were diagnosed with varying subtypes of non-Hodgkin's lymphoma. Each participant was asked to complete a questionnaire characterizing her usual diet in the year prior to being interviewed. After completion, the questionnaires were analyzed to calculate average daily nutrient intakes. Results were compared to a control group of 717 women.

"So far, risk of [non-Hodgkin's lymphoma] associated with animal protein and fat intakes has only been investigated in American women, in three studies," said Zheng. "If the association could also be demonstrated in American men, it would provide important information towards understanding the cause of [non-Hodgkin's lymphoma]."

Reference

* Zheng T, Holford TR, Leaderer B, et al. Diet and nutrient intakes and risk of non-Hodgkin's lymphoma in Connecticut women. *Am J Epidemiol.* 2004 Mar 1;159(5):454-66.

DHEA Shown to Boost Brain Cell Growth

Dehydroepiandrosterone (DHEA) is one of the most active and plentiful circulating hormones in both men and women. DHEA levels peak, however, around the age of 30, then decline by as much as 80% by the age of 80. As a result, many anti-aging researchers recommend supplemental DHEA as a way to forestall many of the deleterious effects of aging, such as decreased libido, muscle mass, and brain function.

A newly published study sheds light on how DHEA may increase brain function. Researchers at the University of Wisconsin found that DHEA boosts brain cell growth.* When DHEA was added to human neural stem cells, these embryonic brain cells showed a remarkable

increase in their growth rate. These findings, published in the *Proceedings of the National Academy of Sciences USA*, offer the first direct proof of DHEA's beneficial effect on human brain cells.

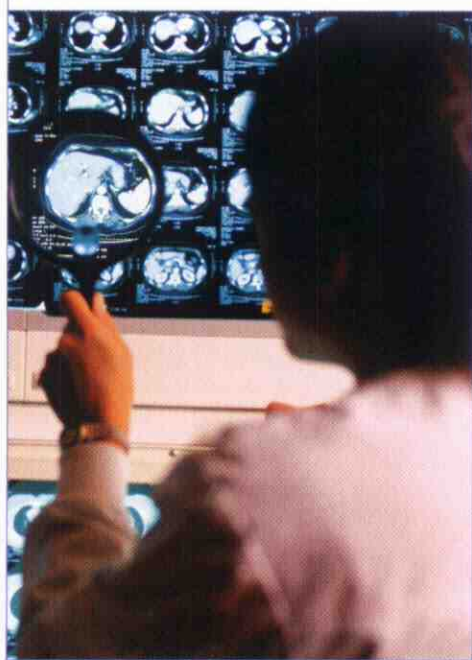
Study director Dr. Clive Svendsen and his colleagues grew human neural stem cells in culture and then exposed the cells to either a mixture of DHEA, growth factors, and inhibitory factors or a mixture of the growth and inhibitory factors minus DHEA. The cells exposed to the mixture containing DHEA demonstrated a 29% increase in new brain cells compared to the mixture without DHEA.

The researchers noted that DHEA was the only hormone tested that had such a direct effect on neural stem cell growth and new neuron formation. Since adult human brains have neural stem cells that continue to make new neurons in some parts of the brain, this study may point to one way in which DHEA works as anti-aging supplement.

—Edward R. Rosick, DO, MPH, MS

Reference

* Suzuki M, Wright LS, Marwah P, Lardy HA, Svendsen CN. Mitotic and neurogenic effects of dehydroepiandrosterone (DHEA) on human neural stem cell cultures derived from the fetal cortex. *Proc Natl Acad Sci USA.* 2004 Mar 2;101(9):3202-7. Epub 2004 Feb 18.



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