



## GREEN TEA MAY PREVENT SKIN CANCER

**G**reen tea polyphenols show promise as anti-carcinogenic agents and may prevent the development of ultraviolet radiation-induced skin cancer, according to researchers at the University of Alabama at Birmingham.\*

Consumption of green tea has been shown to have numerous health benefits, mainly due to the antioxidant properties of the catechins it contains.

Two groups of mice were exposed to ultraviolet B radiation three times a week for 24 weeks. The first group was given only water, while the second group was given water containing 2 grams per liter of green tea polyphenols. A control group drank water and was not exposed to ultraviolet radiation.

Analysis of the ultraviolet light-exposed mice revealed a significant drop in cancer incidence and tumor growth in the group receiving green tea polyphenols. In this group, tumor incidence was reduced by 35%, tumor multiplicity (number) by 63%, and overall tumor growth by 55%.

These remarkable numbers are due to the effects of green tea polyphenols on several biomarkers involved in the formation of skin cancer. These include the inhibition of angiogenic factors, which concern the growth and differentiation of blood vessels, and an increased number of cytotoxic T-cells in the tumor microenvironment, which indicates enhanced immune response in the mice.

According to researcher Santosh K. Katiyar, PhD, "This study, which was conducted in animals, suggests that regular use of green tea as a beverage (5-6 cups a day) may be helpful in the prevention of skin cancers in humans. However, further studies are required to be performed in humans or in high-risk human individuals. These future studies will confirm the beneficial effects of green tea against the risk of skin cancer."

—Abigail P. Sadowsky

### Reference

- \* Mantena SK, Meeran SM, Elmets CA, Katiyar SK. Orally administered green tea polyphenols prevent ultraviolet radiation-induced skin cancer in mice through activation of cytotoxic T cells and inhibition of angiogenesis in tumors. *J Nutr.* 2005 Dec;135(12):2871-7.

# Weight, Inactivity Tied to Women's Cardiovascular Risk

**A**merican women fail to understand their risk for heart disease and how exercise and body weight influence that risk, according to a recent report by the American Heart Association.

Coronary heart disease, the number-one killer of women in the US, causes more deaths in adults over the age of 25 than the five other leading causes of death combined. In 2003, 6 million women had coronary heart disease and 3.1 million had strokes, leading to 483,300 deaths.<sup>1</sup>

To study the relationship between obesity, physical activity, and heart disease risk, researchers at the Harvard University School of Public Health followed 88,393 women, ages 34 to 59, in the Nurses' Health Study for 20 years. None of the women had cardiovascular disease or cancer at the study's onset.

During the 20 years of follow-up, there were 889 deaths due to coronary heart disease, as well as 1,469 cases of non-fatal myocardial infarction. Analyzing these data, Harvard scientists determined that obesity and being overweight were associated with an increased risk of coronary heart disease, while increasing levels of physical activity were associated with a graded reduction in risk.<sup>2</sup>

Active women of healthy weight served as a reference group. Women who were both obese and inactive had a 3.4 times greater heart disease risk over 20 years, while women who were active but obese were 2.5 times more likely to have heart disease. Women of normal weight who did not exercise had 1.5 times the risk for

heart disease than did lean, active women. Obese, sedentary, smoking women demonstrated the highest risk for coronary heart disease, which was 9.4 times higher than the risk for lean, active, non-smoking women.<sup>2</sup>

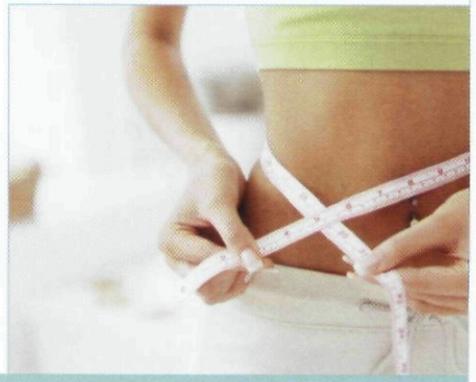
These findings counter some recent studies suggesting that overweight people may avert cardiovascular disease risk by being fit, demonstrating that both fitness levels and weight are independent and important predictors of heart disease risk.<sup>2</sup>

According to researcher Dr. Frank Hu, "A high level of physical activity did not eliminate the risk of coronary heart disease associated with obesity and leanness did not counteract coronary heart disease risk associated with inactivity."<sup>1</sup>

—Elizabeth Wagner, ND

### References

1. Available at: [http://today.reuters.com/news/newsArticle.aspx?type=healthNews&storyID=2006-0131T212527Z\\_01\\_N3164817\\_RTRUKOC\\_0\\_US-HEART.xml](http://today.reuters.com/news/newsArticle.aspx?type=healthNews&storyID=2006-0131T212527Z_01_N3164817_RTRUKOC_0_US-HEART.xml). Accessed February 3, 2006.
2. Li TY, Rana JS, Manson JE, et al. Obesity as compared with physical activity in predicting risk of coronary heart disease in women. *Circulation.* 2006 Jan 31;113(4):499-506.



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