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## Green Tea Could Be Good for Your Skin, Study Finds

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Aug. 17, 2000 -- Remember oat bran? It was supposed to help with digestion, prevent cancer, reverse heart disease -- you name it, oat bran did it. Until it more or less disappeared off the radar of our collective consciousness. Today, it seems that green tea is everywhere, being touted as capable of doing just about anything.

Recent scientific studies have indicated that green tea could protect against cancer, heart disease, and osteoporosis, as well as aid in weight loss. And you can't walk into a cosmetics store these days without bumping into a skin care product containing green tea. Many believe the tea in skin products can help ward off skin cancer and signs of aging.

But can green tea really be good for your skin? An article published in the August issue of the *Archives of Dermatology* says yes -- in theory.

"There may be some benefits of green tea in the human skin products," Hasan Mukhtar, PhD, and colleagues say in the article, which summarizes all the known information about green tea's effects on the skin. Mukhtar is a professor and the director of research in the department of dermatology at Case Western Reserve University in Cleveland.

Still, Mukhtar says, it's not clear whether the amounts of green tea found in the skin products now available are enough to have any benefit. In other words, don't run out and stock up on green tea masks, creams, and bubble baths just yet.

Green tea is consumed mostly in Asian countries, including India, Japan, Korea, and China; it's not quite as popular as its cousin, black tea, which is consumed by more than 75% of tea drinkers. Like black tea and oolong tea, green tea comes from the *Camellia sinensis* plant -- but unlike the other two varieties, its leaves are not fermented before steaming and drying; they remain fresh.

Mukhtar believes, as do others, that green tea's antioxidant property is key to its skin-protective qualities. "Of all the antioxidants known to mankind, the components of green tea are the most potent," says Mukhtar. "Antioxidants are those agents which can counteract the effects of oxidant radicals." Oxidant radicals -- or free radicals, as they are commonly called -- are byproducts of the body that can cause damage to cells and tissues. Antioxidants bind to the free radicals, deactivating them before they can cause harm.

Green, black, and oolong teas -- along with coffee, red grapes, kidney beans, raisins, prunes, and red wine -- contain large quantities of polyphenols. Polyphenols, which are a class of bioflavonoids, have been shown to have antioxidant, anticancer, antibacterial, and antiviral properties.

Most of the polyphenols in green tea are catechins. Catechins, which are antioxidants by nature, have also been shown to function as anti-inflammatory and anticancer agents. One of the major catechins in green tea has been shown to be the most effective agent against skin inflammation and cancerous changes in the skin.

In their review of the scientific literature, Mukhtar and his colleagues found evidence that the compounds in green tea protected mouse skin from cancer caused by sunlight. Additionally, his team conducted a few experimental studies on human skin, and found that the polyphenols in green tea also had anti-inflammatory and anticancer properties.

While acknowledging that antioxidants are important, Allan Conney, PhD, believes there may be more at work. Conney's lab is also trying to unravel the mechanism by which green tea protects against cancer, and is now looking at the effects of the caffeine. "In our studies, if we remove the caffeine from tea and feed the decaffeinated tea to mice at a moderate dose, it loses most of its effectiveness at inhibiting ... skin cancer," says Conney, director of the Laboratory for Cancer Research at Rutgers University College of Pharmacy in New Jersey.

"The important question is, what happens in people?" says Conney. "There is a need for more clinical studies in the future in order to be able to say tea has a beneficial effect in preventing ... human sunlight-induced skin cancer."