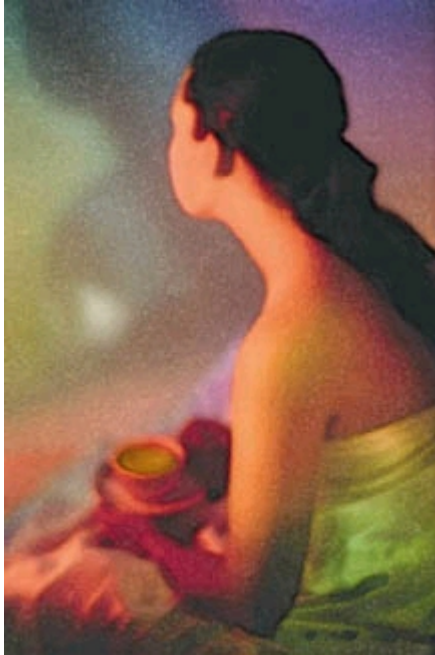


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REPORT



Tea for You

Few social customs, or indeed those things you do just for yourself, are as soothing as a cup of Oriental Green Tea. We now know, however, that tea protects your body as well as your equanimity.

By William Faloon

Green tea, the ceremonial drink from the Orient that has found a heart-warming spot in Western homes for its soothing and enjoyable properties, is much more than that. A cup of tea—as well as extracts that provide concentrated forms of green tea's active ingredients—offers numerous disease-fighting properties.

Smooth tasting organic Japanese green tea is considered a gourmet treat by many tea drinkers. Further, Japanese green tea can provide a satiating effect that enables people to reduce their calorie intake. Epidemiological studies show that people who drink green tea have significantly lower risks of many diseases, including cancer, heart disease and stroke. Laboratory studies show that green tea extract protects against, and may be an effective treatment for, many common degenerative diseases.

The active constituents in green tea are the catechin polyphenols. Green tea catechins are potent antioxidants that provide health benefits beyond their ability to neutralize free radicals.

The ability of green tea to prevent cancer is so well established that new studies are testing green tea as a potential cancer therapy. Green tea may be especially protective against lung cancer in former and current cigarette smokers. Its lung cancer protective effects are of significant importance based on new studies showing that former smokers are at greater risk for developing lung cancer than was previously thought.

Green tea catechins have been shown to prevent cancer in the following ways:

- Helping to neutralize dietary carcinogens such as nitrosamine and aflatoxin;
- Interfering with the binding of cancer-causing agents to cellular DNA, thereby protecting cells against mutations that can eventually cause cancer;
- Protecting against free-radical DNA damage that causes some cancers;
- Inhibiting bacterial-induced DNA mutations that also can lead to certain cancers;
- Working with enzymes and other antioxidants in the intestine, liver and lungs to prevent the activation of certain carcinogens before they damage DNA; and
- Protecting against the effects of ionizing radiation and ultraviolet radiation. Green tea has been shown to counteract both the initiation and promotion of carcinogenesis. Some studies have shown that green tea blocks the formation of certain tumors. If green tea's only benefit were to reduce the risk of cancer, it would be well worth taking as a beverage or supplement.

Cancer patients should be aware of the impact of green tea's caffeine content. While healthy people shouldn't have to worry about the low level of caffeine supplied by the recommended dose of a 280-mg green tea extract capsule, the high doses of green tea extract recommended for cancer patients—1,400 to 2,240 mg a day—might supply an intolerably high level of caffeine for these people.

The research may be a bit confusing at this point: a review of the scientific literature shows that some cancer

patients should avoid caffeine, while other studies show that caffeine works synergistically with green tea polyphenols against cancer. Nevertheless, anyone who is overly sensitive to caffeine should take decaffeinated green tea extract.

When starch is consumed, it requires the enzyme amylase to break it down into simple sugars that can be absorbed in the blood stream. Green tea polyphenols inhibit amylase, which therefore cuts down on the harmful sugars absorbed into the blood. One study showed that just one cup of green tea inhibited amylase activity by 87 percent. Another study showed that green tea extract reduced the normal elevation of glucose and insulin when 50 grams of starch were ingested. This is good, because high blood levels of glucose and insulin predispose people to diabetes and cardiovascular disease, and are associated with accelerated aging.

For many people, sugar is the primary culprit in the accumulation of body fat. One animal study showed a significant reduction in body fat in response to green tea-catechin supplementation.

Green tea polyphenols are potent antioxidants, especially in the brain. Some studies show that the polyphenols most prevalent in green tea (the catechins) are far more potent in suppressing free radicals than vitamins C or E.

Green tea also can kill bacteria. Taking green tea with meals may reduce the risk of bacterial food poisoning. Green tea also is effective against a strain of staph that has become antibiotic-resistant. Green tea promotes the growth of friendly bifidobacteria in the intestine and prevents the growth of dangerous intestinal bacterial strains such as clostridia and E. coli.

In addition, the polyphenols in green tea suppress the production of an uremic toxin (methylguanidine) to improve the clinical appearance of the kidney after renal failure. A human study showed that the toxic compound methylguanidine decreased significantly one month after the administration of green tea polyphenols. Six months later, the mean methylguanidine level was about 70 percent of what it had been at the initiation of treatment.

Drinking green tea may kill oral bacteria that cause cavities and bad breath. Indeed, the Japanese drink green tea to suppress foul breath caused by certain foods. The deodorizing effect of green tea leaves has been known for centuries, and tea leaves traditionally have been used as deodorants. A study demonstrated the deodorizing action of green tea polyphenols in a test against methyl mercaptan, the compound most closely associated with halitosis. Green tea also has been shown to suppress bad smells produced by trimethylamine and ammonia.

Green tea inhibits several viruses, including viral hepatitis. High stores of iron in the liver preclude successful treatment of hepatitis C. Green tea lowers iron levels throughout the body and may have a direct anti-viral effect against certain strains of the hepatitis C virus. Excessive iron in the liver precludes successful treatment with ribavirin and interferon-generate free radicals that cause cirrhosis of the liver.

And you thought green tea was just a delightful way to relax. It is that, of course. But it is so much more.

Green Tea- It's Good for Your Heart

In addition to its cancer-fighting properties, green tea also appears to mitigate many of the risk factors associated with heart disease and stroke. Green tea has been shown to lower "bad" LDL cholesterol and serum triglyceride levels. Further, green tea's potent antioxidant effects inhibit the oxidation of LDL cholesterol in the arteries, which plays a major contributory role in the formation of atherosclerosis.

Green tea also has been shown to inhibit abnormal blood clot formation (thrombosis), which is the leading cause of heart attack and stroke. When one looks at coagulation risk factors in the blood, green tea is seen to specifically inhibit platelet aggregation and adhesion via effects that differ from, but are essentially as effective as, aspirin.

Green tea reduces the risk of arterial blood clotting by two known mechanisms. First, green tea inhibits thromboxane A2 formation, as does aspirin. Second, green tea inhibits another clotting agent called platelet activating factor (PAF). Reducing thromboxane A2 levels is highly desirable. Thromboxane not only causes arterial blood clots, but also causes arterial constriction. The inhibition of thromboxane can prevent a heart attack or a thrombotic stroke.

Green tea also has been shown to elevate levels of HDL, the good cholesterol that helps remove atherosclerotic plaque from arterial walls.

Note that aspirin has some anti-thrombotic effects that differ from green tea, such as inhibition of cyclooxygenase. If you are taking low-dose aspirin to prevent a heart attack or stroke, you should continue doing so even if you also consume green tea.

If you are going to use green tea to lower cholesterol, triglycerides or thrombotic risk factors, make sure you have your blood tested and evaluated by a competent medical professional.

The loss of arterial elasticity is one cause of high blood pressure. Youthful arteries expand and contract effortlessly with each heart beat. Aging causes a loss of arterial elasticity. As noted, green tea inhibits thromboxane production, which is one cause of arterial constriction.

A more significant cause of hypertension is an enzyme secreted by the kidneys called angiotension-converting enzyme (ACE). Popular drugs such as Capoten, Vasotec and Zestril function as angiotension-converting enzyme inhibitors (ACE inhibitors). By blocking the effects of ACE, blood pressure is reduced significantly in most hypertensive. However, green tea is a natural ACE inhibitor. Published studies show lowered blood pressure in animals and humans given green tea extracts.

If you are going to use green tea to treat hypertension, do so only under the supervision of a competent medical professional who can evaluate whether it is working for you. Regular blood pressure testing is mandatory.

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