

## Benefits of Green Tea for Boosting Antiviral Immune Function



Michael Greger M.D.



Unlike most antiviral drugs, green tea appears to work by boosting the immune system to combat diseases such as genital warts (caused by HPV) and the flu (caused by the influenza virus). “The belief of green tea as a ‘wonder weapon’ against diseases dates back thousands of years.” I’ve talked about it in relation to chronic disease, but what about infectious disease? Interest in the antimicrobial activity of tea dates back to a military medical journal in 1906, suggesting that servicemen fill their canteens with tea to kill off the bugs that caused typhoid fever. However, this effect of tea was not studied further until the late 1980s, when tea compounds were pitted against viruses and bacteria in test tubes and petri dishes.

But what we care about is do they work in people? I had dismissed this entire field of inquiry as clinically irrelevant—until genital warts. “External genital warts,” caused by human wart viruses, “are one of the most common and fastest-spreading venereal diseases worldwide.”

“Patients with [external genital warts] present with one or several cauliflower-like growths on the genitals and/or anal regions,” considerably impairing people’s “emotional and sexual well-being.” But, rub some green tea ointment on, and you can achieve “complete clearance of all warts” in more than 50% of cases.

Wow. If it works so well for wart viruses, what about flu viruses? Works great in a petri dish, but what about in people? Tea-drinking schoolchildren do seem to be protected. But you don’t know until it’s put to the test. If you give healthcare workers green tea compounds, they come down with the flu about three times less often than those given placebo. In fact, just gargling with green tea may help. While a similar effect was not found in high school students, gargling with green tea may drop the risk of influenza infection seven- or eight-fold, compared to gargling with water, in elderly nursing home residents, where flu can get really serious.

Unlike antiviral drugs, green tea appears to help by boosting the immune system, enhancing the proliferation and activity of gamma delta T cells, a type of immune cell that acts as “a first-line defense against infection.” “Subjects who drank six cups of tea per day had up to a 15-fold increase in [infection-fighting] interferon...production in as little as one week”—but why?

There’s actually a molecular pattern shared by cancer cells and pathogens with “edible plant products, such as tea, apples, mushrooms, and wine.” And so, eating healthy foods may help maintain our immune cells on ready alert, effectively priming our gamma delta T cells “that then can provide natural resistance to microbial infections, and perhaps tumors.”

I guess I shouldn’t have been so surprised—tea, after all, is “a vegetable infusion.” You’re basically drinking a hot water extraction of a dark green leafy vegetable.