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germ warfare

Forget those expensive antibacterial soaps—just learn to wash your hands right.

by Sharon Brock

Bacteria are all around us. When we pick up the milk pitcher at a coffee bar, shake hands in a meeting or turn the doorknob of a public bathroom, we pick up millions of them. They cover our hands and fingers, getting under our fingernails and a little too cozy on our skin. And with the cold and flu season still going strong—even in the Bay Area, where spring's well on its way—you're probably seeing bottles of antibacterial soaps everywhere: in restaurant restrooms, in the bathroom at the office and, of course, on the drugstore shelves. But do they actually work—and are they really necessary?

First question first. Check out the active ingredient on the back of these products. It's probably triclosan, the most popular antibacterial agent on the market. Triclosan was first used in soaps for hospitals in the 1960s, but today you

can find it not only in hand and body soap but also in laundry detergent, dish-washing liquid, toothpaste, deodorant, surface cleaners and even plastic toys for children. Americans purchased over a billion dollars' worth of antibacterial products last year alone.

If it really is bacteria you're worried about—if, let's say, you work in a hospital or live with someone particularly vulnerable to infection or have pets—antibacterial products can be helpful. Triclosan kills such potentially nasty bacteria as *Staphylococcus aureus* and *E. coli* by inhibiting a specific enzyme that they need to survive. (In order for the triclosan to do this, however, you need to spend about two minutes washing your hands—something most of us, even many health professionals, don't do.)

But if you're trying to avoid the flu or a cold, better think again. These antibacterial products claim to keep you healthier by fighting off “germs,” a deliberately vague term that encompasses both viruses and bacteria. However, triclosan by itself is no defense against the common cold. “There is a huge misconception that antibacterial soaps will protect you from catching a cold,” says Adam Wallach, M.D., an attending

dermatologist at the John Muir Medical Center in Walnut Creek, “but colds and the flu are caused by viruses—and antibacterial soaps kill bacteria, not viruses.”

In addition, there's some concern in the scientific community about bringing large amounts of triclosan into a “healthy” home (that is, a home without the very old, very young or very frail living in it). Bacteria are a part of our natural ecosystem. Within each of us live hundreds of trillions of bacteria that help us with digestion and protect us from other things that make us sick.

There are other reasons not to go overboard with these products. First off, the Environmental Protection Agency is investigating whether triclosan contains cancer-causing toxins. Additionally, some studies show that children raised in excessively clean households are actually more likely to develop allergies, asthma and eczema than are other kids because their immune systems, which depend on exposure to a variety of bacteria during childhood to develop properly, are too weak.

Yet more studies have hinted that the overuse of triclosan may lead to topical-antibiotic resistance, much like some bacteria's resistance to oral antibiotics, which has been in the news over the last few years. (According to Dr. Wallach, though, this fear has not been backed up by significant research, and most dermatologists aren't worried that antibiotic resistance will occur with triclosan or other topical agents such as Polysporin or Bacitracin.)

The best way to avoid catching a cold? Dr. Wallach says it's washing your hands five times a day, regardless of what type of soap you end up using. “It's the mechanical aspect of physically getting the germs off your hands,” he says. “In other words, spending some time really scrubbing your hands five times a day with regular soap is more effective than washing twice a day with antibacterial soap.” (The Centers for Disease Control and Prevention recommends using liquid soap with warm, running water and singing “Happy Birthday” to yourself twice—all the way through—to be sure you've scrubbed for long enough.)

So, if you work with animals, in a hospital, in a restaurant or with the elderly or children, go ahead and use antibacterial soap. Otherwise, washing five times a day with plain old soap should keep you healthy and germ-free. x



JUST ADD WATER: Plain old soap can protect you from viruses and bacteria.

CLEAN SWEEP

If the thought of using antibacterials is nearly as scary as the bacteria themselves, try one of the following products:

A popular, no-water-required sanitizing gel, **Purell** is 62 percent ethyl alcohol, which is effective on bacteria and viruses. Because alcohol dries out your skin, be sure to buy the Purell with added moisturizers.

If you're worried about alcohol drying your hands, check out **Hands2Go Instant Hand Sanitizer**, which is both triclosan- and alcohol-free. The antibacterial ingredient is a salt, benzalkonium chloride, which damages the cell walls of bacteria. Although the foaming liquid doesn't defend against viruses, it kills 99.9 percent of bacteria on contact—no water required.

Your local Rite Aid or Walgreens no doubt carries **antibacterial towelettes**, which also contain benzalkonium chloride as an active ingredient. And, since they're towelettes, they physically remove dirt from your hands—something gels can't do. —SB