

# OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Joseph Baker

## The Dirt on Antibacterial Products

*You use antibacterial soap when you wash your hands, antibacterial dishwashing liquid to scrub your dishes and antibacterial wipes to clean your kitchen countertops. But is this all-out bacteria assault really necessary?*

*The answer is “no,” according to Dr. Baker.*

### More Hype Than Help

In an alarming 48-week study that included 224 households, half of the participants were given general cleaning, laundry and hand-washing products labeled “antibacterial” or “disinfectant.” The other half received products that were not antibacterial.

At the end of the study — after comparing the data on both groups — researchers determined that the use of antibacterial products did not benefit the general, healthy population. They concluded that, “The potential value of antibacterial cleansers in household use should not be overestimated by zealous manufacturers.” (*Am Fam Physician* 2004;70:1786.)

Antibacterial products also provided no protective benefits for those already in ill health. In fact, the researchers discovered that “persons with chronic disease or poor health in the antibacterial family groups were significantly more likely to have fever, runny nose, and cough than counterparts in the non-antibacterial group.” (*Am Fam Physician* 2004;70:1786.)

It’s reasonable to assume that the chemical components of the antibacterial products served to further irritate the respiratory systems of those who were already ill.

There are a number of similar studies published in other peer-reviewed medical journals as well. For instance, another group of researchers con-

cluded that “the use of antibacterial products does not reduce the risk for primarily viral infection in households of healthy persons.” (*Ann Intern Med* 2004;140:321.)

Another report agreed that “the amount of bacteria recovered from homes where antibacterial cleaning and personal care products were used was not significantly different from the amount recovered from homes where antibacterial products were not used.” (*Fam Pract News* 2003;33:32.)

Dr. Baker urges patients to avoid getting caught up in the counterproductive war against bacteria. Instead, focus on building strong immune systems through regular chiropractic visits, proper nutrition and healthy lifestyles (such as regular exercise, stress reduction and getting plenty of sleep at night).

### Cancer-Causing Agents

Even more alarming than the ineffectiveness of antibacterial products, there is mounting scientific evidence that they may actually endanger the health of the consumers who use them.

According to Peter Vikesland, a researcher at Virginia Polytechnic Institute and State University, mixing antibacterial dish soap with chlorinated water may expose consumers to significant quantities of chloroform — a chemical that is classified by the Environmental Protection Agency (EPA) as a probable human carcinogen.



Vikesland comments that “this is the first work that we know of that suggests that consumer products, such as antimicrobial soap, can produce significant quantities of chloroform.” (*Environ Sci Technol* 2005;39:3176.)

Chloroform is created when the chemical triclosan (TCS) — a chlorinated biphenyl ether widely used as an antibacterial agent in products ranging from hand soap to shampoo, liquid toothpaste and cosmetics — reacts with the chlorine in water.

In addition to being inhaled, it’s possible for chloroform to be absorbed directly into the skin. Researchers suggest consumers wear rubber gloves if they insist on using antibacterial dishwashing liquid.

Rubber gloves won’t stop the inhalation of chloroform fumes, however. Plus, chemicals in antibacterial products end up in water sources, another avenue of exposure. That’s why Dr. Baker urges patients to opt for nonantibacterial dishwashing liquid.

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## Dioxin Danger

In the journal article mentioned in the previous section, Vikesland also referred to work done by researchers from the University of Minnesota who determined that triclosan (TCS) could also produce dioxins — not just chloroform — in the presence of sunlight. Dioxins are highly carcinogenic chemicals that do not degrade over time, and they can accumulate in body tissues.

Dioxin is strongly linked to the development of a variety of cancers, including prostate cancer and melanoma (*J Occup Environ Med* 2004;46:123-36).

## Hormone Hazard

Both uterine and breast cancer are linked to higher-than-average levels of some forms of the hormone estrogen. And now a close cousin of the hormone is being used in antibacterial products. TCS has a chemical structure that “closely resembles known non-steroidal estrogens.” (*Mar Environ Res* 2000;50:153-6.)

When fish and other marine life were exposed to wastewater tainted with the chemical, its estrogen-like nature was linked to “changes in fin length and ... sex ratio” in aquatic species (*Mar Environ Res* 2000;50:153-6).

## Environment Eroder

TCS is “quite highly toxic to aquatic animals,” according to a Japanese study published last year. Researchers found that it was particularly toxic to green algae, “which are important

organisms, being the first-step producers in the ecosystem; therefore, the possible destruction of the balance of the ecosystem is expected if triclosan [TCS] is discharged into the environment at high levels.” (*Environ Sci* 2004;11:133-40.)



Bottom line: TCS has a negative effect on the early-life development stage of the algae. And anything that potentially disrupts the environment’s delicate ecological balance — not to mention the potential harm to humans — should raise a red flag to consumers.

## ‘Super Bug’ Supporter

According to researchers in New Mexico, topsoil found in dairy farms is now a breeding ground for a new strain of bacteria — antibacterial-resistant “super bugs.” The reason? Antibiotics are used extensively in agricultural settings for the treatment of infections and growth enhancement (*J Dairy Sci* 2005;88:1391-8). Overuse of antibiotics has created these “super bugs,” which are more aggressive and resistant to medication.

Traces of antibiotics and growth hormones are found in virtually all nonor-

ganic meat and dairy products. Consistently ingesting these second-hand drugs — on top of using antibacterial products — means that increasingly powerful antibiotics will be needed to counteract each new bacterial assault.

Studies are beginning to question the cumulative effect of antibacterial products on antibiotic resistance. While the issue is still being debated, “a relationship may emerge after longer-term or higher-dose exposure of bacteria to triclosan [TCS] in the community setting.” (*Antimicrob Agents Chemother* 2004;48:2973-9.)

Why submit yourself and your family to yet another source of these potentially hazardous chemicals from antibacterial cleansers?

## Sing Your ABCs!

In the end, plain old soap and water — minus the antibacterial additives — may be the healthiest option. The key is to make sure you wash your hands long enough to get the job done.

One of the best and simplest ways to do this is to lather up while you sing the ABC song you learned as a child.

## All-Natural Alternatives

Can you really get your kitchen and bathroom clean without antibacterial products? You bet!

When reading product labels, look for natural words you recognize — such as vinegar, tea tree oil and grapefruit seed. Avoid products with words you can’t pronounce and haven’t seen since your high school chemistry class.

**Bathtub and Tile Cleanser** Mix  $1\frac{1}{2}$  cups baking soda,  $\frac{1}{2}$  cup nonantibacterial liquid soap and  $\frac{1}{2}$  cup water. After thoroughly mixing these ingredients, add 2 tablespoons of vinegar.

**Floor Cleaner** Add  $\frac{1}{2}$  cup of borax to two gallons of hot water.

**Counter and Sink Scrub** When you need a little extra scrubbing power, mix together some baking soda and all-natural liquid soap until it’s the consistency you want. Because it tends to dry out quickly, make just enough for the job at hand.

**Plant Cleaner** To remove water spots and shine green leaves on most houseplants, dilute  $\frac{1}{4}$  cup lemon juice with  $\frac{3}{4}$  cups water.

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