

## Antibacterials? Here's the Rub

For most of human history, soap got rid of germs by making surface dirt and oils slippery enough to be rubbed and rinsed off. Since World War II, however, human-made chemicals have altered the traditional recipe. Manufacturers increasingly fortify liquid soaps, shower gels, and body washes with a wide range of fragrances and other inputs—including germ-fighting “antibacterial” properties—and tout the benefits of doing so.

But studies show that antibacterial soaps are not significantly more effective at combating germs than regular soaps. Even worse, their popularity is contributing to the growing problem of drug-resistance—creating greater opportunities for the emergence of deadly “super-bugs” that are immune to germ-fighting agents. As a consequence, many antibiotics and other compounds used to fight life-threatening infections like malaria and tuberculosis are no longer as effective as they once were. When it comes to germ prevention, there's really no substitute for plain old soap and water.



### DID YOU KNOW...?

- \* Although labeled antibacterial, most germ-fighting soaps are actually antimicrobial, attacking viruses as well as bacteria.
- \* The global market for soap is projected to reach \$6 billion by 2008. Growth is fastest in Asia, where demand for enhanced soap products—including antimicrobials—is rising rapidly.
- \* Triclosan, the leading germ-fighting compound in antimicrobial soaps, acts by destroying enzymes in bacteria cell walls so they cannot replicate; it targets the same enzyme as the antibiotic isoniazid, used to treat tuberculosis.
- \* In the United States, 75 percent of liquid soaps and nearly 30 percent of bar soaps now contain triclosan and other germ-fighting compounds, whose prevalence can foster the growth of bacterial resistance.
- \* A 2002 study by the U.S. Geological Survey found that triclosan and phthalates from antibacterial soaps and other detergents were polluting water bodies across the U.S. in low concentrations through wastewater.

## SUCCESS STORIES

❖ To fight growing drug resistance, groups like the World Health Organization and the Alliance for the Prudent Use of Antibiotics have launched global campaigns against the misuse of antimicrobials, with the aim of informing individuals, health care workers, and manufacturers about this growing problem.

## CHALLENGE YOURSELF AND OTHERS:

Spend an hour going through your home to identify any products that may have antibacterial properties, in particular hand and dish soaps and bathroom cleansers. The next time you go shopping, replace these items with plain soaps and cleansers that are free of these compounds. If you don't find them in a store, let your retailer know what choices you want them to carry.



## SIMPLE THINGS YOU CAN DO:

- ✓ Stop buying soaps and other home products that contain triclosan and other antimicrobial agents—including toothpaste, cosmetics, carpets, plastic kitchenware, sponges, and even toys. Urge your family, friends, and workplace not to buy them either.
- ✓ Wash your hands by rubbing thoroughly with ordinary soap and warm water before preparing food and after using the toilet, as this is still the best way to prevent colds and food-borne disease.
- ✓ Encourage your doctor and other health care professionals to use alcohol-based hand-rub gels to stop the spread of germs, rather than antimicrobial products.
- ✓ Ask your supermarkets and drug stores to stop carrying antibacterial products and to educate shoppers about the risks involved.

## FOR MORE INFORMATION

- ☛ Alliance for the Prudent Use of Antibiotics ([www.tufts.edu/med/apua](http://www.tufts.edu/med/apua)) is an international organization that helps educate consumers and doctors about the risks associated with antibiotic resistance.
- ☛ World Health Organization ([www.who.int/health\\_topics/drug\\_resistance/en](http://www.who.int/health_topics/drug_resistance/en)) provides links to worldwide activities, reports, news, and events related to the topic of drug resistance.
- ☛ U.S. Centers for Disease Control and Prevention ([www.cdc.gov/drugresistance](http://www.cdc.gov/drugresistance)) offers a wide range of information on the risks of antimicrobial resistance.