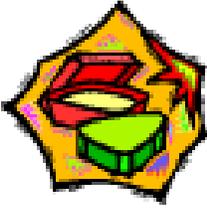


Common Sense Talk about Antibacterial Products



Antibacterial cleaning products abound, from soaps and lotions to kitchen and bathroom cleaners. In fact, a recent survey has shown that more than 75% of all liquid hand soaps and nearly 30% of bar soaps for sale nationally contain antibacterial agents. This may seem like good news, but recent research has suggested that some antibacterial agents contained in soaps may facilitate the emergence of antibiotic-resistant bacteria, sometimes known as 'super germs'.

Soap is an effective hand cleaner. Soap isn't designed to kill bacteria, but it acts as a surfactant to lift dirt off of surfaces so that dirt can be rinsed away. This is what happens when you wash your hands with soap: the scrubbing action helps to release dirt and oils that are on the surface of your skin, and soap picks up the dirt and carries it away as you rinse your hands.

Antibacterial soaps abound. Most antibacterial soaps and lotions contain the antibacterial agent **triclosan** or, to a lesser extent, **triclocarban**. Triclosan damages the cell walls of bacteria, slowing their growth so that the bacteria eventually die. So a liquid softsoap containing triclosan not only cleans your skin by removing dirt, it can also kill the bacteria that might remain on your skin after the dirt is washed away. Other products containing triclosan are Colgate® *Total*® toothpaste, bar soaps such as Dial® Antibacterial, antibacterial dishwashing liquids, some sponges and dishcloths, and cutting boards and toothbrush handles with Microban®.

Alcohol-based hand cleaners. A common antibacterial ingredient in health care products is alcohol, the active ingredient in instant hand cleaners such as Purell®. Several years ago consumers were being discouraged from using alcohol-based instant hand cleaners. These products tended to dry the skin and create a situation where even more bacteria were found on the skin after use of the hand cleaner than before. Now, however, almost all alcohol-based instant hand cleaners contain emollients or aloe to prevent the skin from drying out as much. So, while not a replacement for soap and water, alcohol-based instant hand cleaners can be a good back-up when soap and water are not available, such as when a family is traveling or a preschool group is on a field trip.

Concern over triclosan-containing products. Scientists and health-care professionals are concerned about the proliferation of products containing triclosan because of the potential for development of antibiotic-resistant bacteria, sometimes known as 'super germs'. With increased use of products containing triclosan, bacteria have developed a resistance to this antibiotic through natural selection. Bacteria that become resistant to triclosan undergo a genetic mutation that makes them resistant to triclosan or other similar antibiotic agents. Dr. Stuart Levy, director of the Center for Adaptation Genetics and Drug Resistance at Tufts University Medical School in Boston, Massachusetts notes that, "Triclosan itself doesn't cause a mutation, but by killing normal bacteria, it creates an environment where the resistant, mutated bacteria are more likely to survive." And when antibiotic resistant bacteria proliferate, it eventually becomes more difficult to treat infections in humans, as well as in plants and animals.

Adding to the concern over some antibacterial products, the product claims associated with cutting boards, sponges and other antibacterial products can be difficult decipher.

Toothbrushes can be purchased that contain Microban®, a form of triclosan imbedded in the plastic of the handle. The triclosan that is imbedded in this plastic is designed to inhibit the growth of bacteria that may affect the plastic in the handle, it will not offer protection against human germs. And laboratory research has shown that antibacterial dishwashing liquid that is sold for its supposed ability to reduce or kill bacteria does not work as designed, and is no more effective than regular dishwashing liquid.

Not all products are created equal. It's easy to become confused over the variety of products claiming an antibacterial effect. From lotions and soaps to household cleaners, antibacterial products abound. Some of these products such as lotions and hand soaps contain an actual antibiotic – triclosan - as the active ingredient. Other products such as household cleaners contain chemicals, most often bleach (sodium hypochlorite) or quaternary ammonium compounds that kill bacteria but don't necessarily select for 'super germs'. Reading the product label to determine the active ingredient will give you an idea as to how each product works to fight germs.

Regulation of antibacterial products. There are two agencies responsible for oversight of products containing antibacterial compounds. Soaps and lotions containing antibacterial ingredients are regulated by the Food and Drug Administration (FDA) as a drug if they claim to 'kill germs' or 'reduce infection'. Most often, however, soaps and lotions containing antimicrobials make no therapeutic or medical claims and thus are considered cosmetics and need not be proven to be effective. On the other hand, products such as all-purpose household cleaners and dish soaps containing antimicrobials are regulated by the Environmental Protection Agency (EPA) as pesticides.

Summary. Overall, there is some evidence that the use of antibacterial soaps, such as those that contain triclosan, might be warranted in health care situations where extra protection against bacteria is needed. However, recent studies have shown that for most consumers antibacterial products are no more effective than standard products. So the next time you are purchasing a dishwashing liquid or a container of liquid hand soap, take a moment to consider the product ingredients. For reasons of health and safety, you may wish to choose a 'regular' product and not the antibacterial type.

For more information:

Centers for Disease Control and Prevention www.cdc.gov/

Mayo Clinic (Antibiotics: Use Them Wisely) <http://www.mayoclinic.com/health/antibiotics/FL00075>

WebMD <http://www.webmd.com/a-to-z-guides/using-antibiotics-wisely-topic-overview>

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