

REACH Notes

Recent Developments to Promote Judicious Antibiotic Prescribing

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General Household Use of “Antibacterial” Agents

We have all noticed the increased promotion of household cleaners and soaps labeled “antibacterial.” The contribution of these to the general problem of antibiotic resistance is somewhat unknown, but evidence is mounting that they will have unintended consequences for bacterial flora in the community.

- In general, two types of agents with antibacterial properties are used for household cleaning-
 1. Alcohols, chlorine, and peroxides rapidly destroy bacteria, and then evaporate or breakdown, leaving no chemical residue. These are common in household cleaning agents. It is highly unlikely for bacteria to develop resistance to these agents.
 2. Newer compounds have prolonged bacteriocidal activity by leaving long-acting residues on surfaces. Examples include triclosan, triclocarban, and benzalkonium chloride, which have been added to a number of household products over the past 2 decades. A recent 10-state survey found triclosan in 76% of liquid soaps and triclocarban in 29% of bar soaps.¹ In addition; triclosan has been bonded to the surface of kitchen utensils, cutting boards, highchairs, toys, and fabrics.
- The Council on Scientific Affairs (AMA)² and the Association for Professionals in Infection Control and Epidemiology³ have found no evidence to suggest that these agents prevent infection.
- October 2002: News release from the Infectious Diseases Society of America: NIH sponsored study demonstrates no added protection over general soap alone.
- Data supplied by manufacturers have not substantiated product label claims.⁴

Is Soap All Washed Up? Recent Data on Alcohol-Based Hand Gels

- Recent research suggests that waterless alcohol-based antiseptics (e.g. Purell) are more effective germ killers than soap, but they do not remove surface dirt. Regular soap is still the best for general daily hygiene.
- These products do not promote resistance since their antibacterial activity is from alcohol only.
- The CDC recently issued a press release stating that *alcohol-based antiseptics should be considered standard of care for health care workers in wards and ICUs.*⁵
- Studies on the role of alcohol hand gels in child care centers and outpatient clinics are needed, but these may be useful in these settings, especially when use of soap and water is inconvenient.

Final Points

- No evidence supports the use of residue-producing agents in household products to prevent infection.
- Data does exist to suggest that resistance to these agents has already emerged, and widespread household use will likely increase further resistance to these agents.
- General handwashing with soap and water, and cleaning with non-residue forming products, remains the recommendation for general household hygiene.
- *Alcohol-based hand gels are an effective antibacterial hand cleaner for health care workers, and may have a useful role in child care settings..*

¹ Perencevich EN, Wong MT, Harris AD. Am J Infect Control 2001; 29(5): 281-3.

² Tan L, Nielsen NH, Young DC, Trizna Z. Use of antimicrobial agents in consumer products. Arch Dermatol. 2002; 138: 1082-6.

³ APIC Guidelines Committee. The use of antimicrobial household products. APIC News. 1997; 16:13.

⁴ Slater FM. Efficacy of triclosan: reply. Am J Infect Control. 1999; 27: 72-3.

⁵ MMWR Oct 25, 2002, Vol 51; RR-16