Are Hand Sanitizers Better Than Hand Washing Against the Common Cold?

Mar. 24, 2010 — A new study suggests that hand sanitizers containing ethanol are much more effective at removing rhinovirus from hands than washing with soap and water. Sanitizers containing both ethanol and organic acids significantly reduced recovery of the virus from hands and rhinovirus infection up to 4 hours following application.

The researchers from the University of Virginia School of Medicine, Charlottesville and Dial Corporation, Scottsdale, Arizona detail their findings in the March 2010 issue of the journal *Antimicrobial Agents and Chemotherapy*.

Rhinovirus is the known cause of approximately 30 to 35% of common cold cases in adults. Hand-to-hand contact is one of the main avenues of transmission contributing to the spread of rhinovirus infections. In the study researchers compared the effects of hand washing with soap and water and an ethanol-based hand sanitizer by contaminating the fingers of healthy volunteers with rhinovirus and then randomly grouping them and administering one of six hand treatments.

The experiments ranged from a control group who had no treatment, several groups who washed their hands for differing amounts of time (some with soap, some without), and several who used varying amounts of hand sanitizer. Results showed that the ethanol hand sanitizer removed approximately 80% of detectable rhinovirus from hands and was much more effective than no treatment, water alone, or soap and water. Soap and water removed rhinovirus from 31% of hands.

Further, researchers added organic acids to the ethanol-based sanitizer and analyzed its ability to provide persistent antiviral activity against rhinovirus following application. Results showed that the sanitizer containing both organic acids and ethanol inactivated the virus on hands and prevented infection 2 to 4 hours following application.

"The ethanol-containing hand disinfectants were significantly more effective than hand washing with water or with soap and water for removal of detectable rhinovirus for the hands in this study," say the researchers. "Furthermore, a formula containing organic acids and ethanol resulted in residual activity that significantly reduced virus recovery from the hands and rhinovirus infection for up to 4 hours after application."