The Importance of Hand Hygiene Technique (5/04)


The recent CDC guideline on hand hygiene promotes the use of alcohol-based handrubs but the technique was not addressed. This study evaluated the influence of technique on the efficacy of alcohol-based handrubs. Sixty trained infection control professionals and hospital epidemiologists with over 10 years experience were tested for their hand-hygiene technique. A fluorescent dye was added to a hand antiseptic, and hands were checked under ultraviolet light after antiseptic cleansing. Results of the visualization test were compared with the data from microbiological samples before and after the procedure by the hand plate technique. Sixty-six percent of all participants still had detectable bacteria after antisepsis. The mean log\textsubscript{10} CFU reduction was 2.0 (range, 0–3.85). Twenty-five percent of all health-care workers (HCW) achieved less than 1.1 log\textsubscript{10} CFU. \textit{Staphylococcus aureus} was isolated from 13% and gram-negative bacilli from 6.7%. After using the alcohol-based handrub, one subject still remained positive for \textit{S. aureus}. Years of experience was the single most important factor predicting antimicrobial efficacy. Technique is of crucial importance in hand antisepsis. Major deficiencies were detected among even highly trained HCWs. Training should be provided before switching from handwashing to the alcohol handrub.

DIS Comment: Studies have shown that rubbing the hands with alcohol is more effective than handwashing with any non-antimicrobial or antimicrobial soap, however hand hygiene technique has not been addressed. The authors state that the large range of reduction factors from 0 to 3.85 log\textsubscript{10} CFU provides ample evidence of the need for training when introducing a technique using alcohol-based handrubs for hand antisepsis. Alcohol-based hand rubs may improve hand hygiene compliance and are being promoted for use in medical and dental settings. Also, use of alcohol-based handrub products is less time consuming than handwashing, and products with emollient additives may be less irritating to the hands. As a result, many clinics are in the process of adding alcohol-based hand rubs as a hand-hygiene option. Alcohol-based hand rubs intended for use in health-care settings are available as low viscosity rinses, gels, and foams. As with any product, follow the manufacturer’s instructions. This is very important regarding the volume of product to use because the amount may vary for different formulations. When decontaminating hands with an alcohol-based hand rub, apply product to the palm of one hand and rub hands together, covering all surfaces of hands and fingers, until hands are dry. In general if hands feel dry after rubbing hands together for 10-15 seconds, an insufficient volume of product likely was applied. This study emphasizes the importance of appropriate training for HCW before introducing the alcohol-based handrub into their practice.