

464 The Efficacy of Alcohol Based Wipes, Gel, Foam, and Spray Compared to Liquid Soap in Eliminating Transient Hand Bacteria

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Background

- ◆ Hand hygiene is a proven method of preventing the spread of pathogens and reducing healthcare associated infections.
- ◆ Studies have shown that up to 50% of healthcare professionals' (HCPs) hands were contaminated with the same pathogen as a patient with a confirmed multidrug resistant organism, such as MRSA or VRE, after exiting the room.
- ◆ The objective of this study was to compare the efficacy of alcohol based hand rubs and liquid soap at the removal of transient hand bacteria.

Methods

- ◆ Seventy-five healthy adults were randomly chosen to participate in one of the five hand hygiene tests
- ◆ Moistened sterile swabs were used to rub the fingers, thumbs, and palms of both hands before and after hand hygiene.
- ◆ Volunteers performed one of the hand hygiene methods following WHO recommendations for hand washing and hand rubs while wipes were used by applying a pulling motion on fingers and thumbs followed by rubbing the palms.
- ◆ Swabs were agitated for 15 seconds in a peptone broth and poured onto Petrifilms for incubation of 48 hours at 37°C.

Figure 1. Percent Reduction in Hand Aerobic Colony Counts

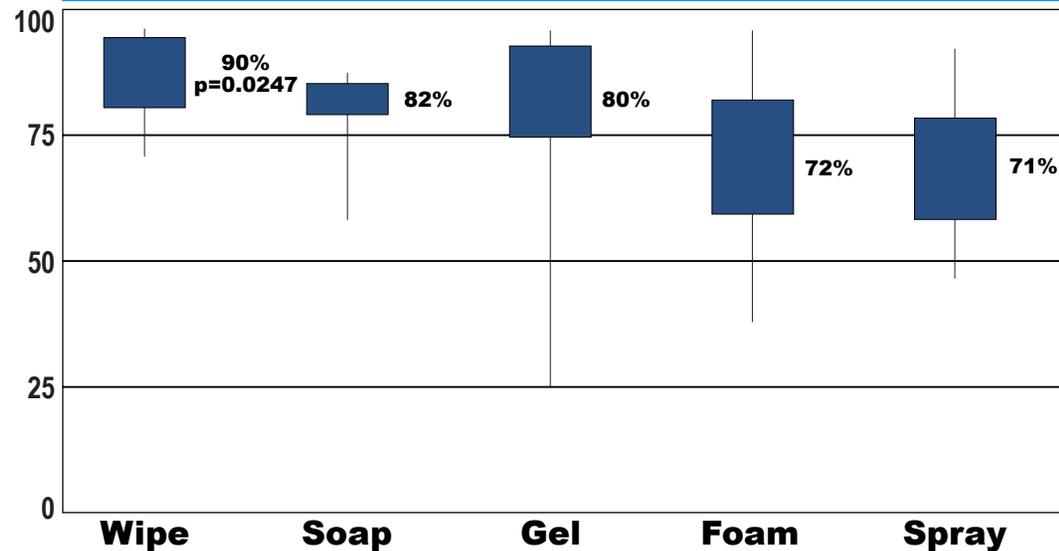


Table 1. Comparison of Alcohol Content, Volume and Contact Time for Hand Hygiene Method

Method	Alcohol	Volume	Contact Time
Wipe	70% Ethanol	1.5 mL	30 sec
Soap	None	1.3 mL	20 sec
Gel	70% Ethanol	1.0 mL	20 sec
Foam	62% Ethanol	Golf ball size	25 sec
Spray	71% Ethanol	3.4 mL	30 sec

Results

- ◆ The percent reduction in transient hand bacteria using aerobic colony counts were enumerated and calculated as follows: 90% for wipes, 82% for liquid soap, 80% for gel, 72% for foam and 71% for spray.
- ◆ The wipes eliminated hand bacteria significantly better than the liquid soap ($p = 0.0247$) while the gel ($p = 0.7239$) and foam ($p = 0.0661$) showed no significance.
- ◆ The soap performed significantly better than the spray ($p = 0.0182$).

Conclusions

- ◆ This study demonstrated that alcohol based wipes performed better at removing transient bacteria from the hands than liquid soap and water.
- ◆ This result potentially provides another method for HCPs in reducing the risk of infection for their next patient and decreasing the likelihood of transmitting an infectious agent via hands.
- ◆ Alcohol wipes could also be used by patients as an alternative form of hand hygiene when hand washing facilities are not accessible.