

An Evaluation of Brush, Brushless, and Waterless Surgical Hand Scrubs among Health Care Workers in Operating Rooms at a University Hospital in Thailand *

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Abstract

The surgical hand scrub plays a significant role in preventing nosocomial and surgical site infections, and in most hospitals in Thailand a brush is traditionally used. Brushing may result in damage to the skin leading to increased colonization with gram-negative bacteria and candida species.

Purpose: The aim of this clinical trial was to compare the effects of the traditional hand scrubs (Brush with 4% CHG, Method A), brushless with 4% CHG (Method B), and brushless and waterless with 1% CHG and 61% ethyl alcohol and emollients (Method C) with regard to microbiological data, skin condition, cost and time savings.

Methodology: The study design was 3-treatment, 3-period, cross-over design comparing each type of surgical hand scrubs and skin condition, microbiological data cost and time among 45 health care workers in Thai hospital operating rooms.

Results: There was a statistically significant effect of methods of surgical hand scrubs in healthcare workers. Method C had a higher log reduction of colony count compared to Methods A and B. There was no significant difference between Method A and B. There was no significant difference on skin condition among the methods of surgical hand scrubs. The satisfaction of surgical hand scrubs for Method C was significantly higher than other methods. Lastly brushless and waterless, and brushless with 4% CHG resulted in lower costs and time saving compared with the traditional hand scrubs.

Conclusion and recommendations: The practice of surgical hand scrubs of Thai health care workers in operating rooms should be based on evidence-based practices and brushless and waterless surgical hand scrubs should be recommended for use in operating room.

Key words: surgical hand scrubs, brush, brushless, waterless, colony data, skin condition, operating theatres