**Objective**

Effective perioperative hand antisepsis is crucial for the safety of patients and medical staff in surgical rooms. The antimicrobial effectiveness of different antisepsic methods, including conventional hand scrubs and waterless hand rubs, has not been well evaluated. Design, setting, and participants. A randomized controlled trial was conducted to investigate the effectiveness of the 3 antisepsic methods among surgical staff of Taipei Medical University- Shuang Ho Hospital. For each method used, a group of 80 participants was enrolled.

**Materials and methods**

This study was a single-center, single-blinded, randomized trial. Participants were recruited from the surgical staff members of Taipei Medical University-Shuang Ho Hospital between December 1, 2014 and January 31, 2015. This trial was approved by the institutional review boards of Taipei Medical University and registered with ClinicalTrials.gov, NCT02294604.

**Results**

Colonization-forming unit (CFU) counts were collected using the hand imprinting method before and after disinfection and after surgery. After surgical hand disinfection, the mean CFU counts of the conventional chlorhexidine (0.52 ± 0.2, P < 0.01) and waterless hand rub groups (1.40 ± 0.7, P < 0.05) were significantly lower than that of the conventional povidone group (4.32 ± 1.3). No significant difference was observed in the mean CFU count among the groups after surgery. Similar results were obtained when preexisting differences before disinfection were considered in the analysis of covariance. Furthermore, multivariate regression indicated that the antisepic method (P < 0.0036), but not other variables, predicted the mean CFU count.

**Conclusions**

Conventional chlorhexidine scrub and waterless hand rub were superior to a conventional povidone-iodine product in bacterial inhibition. We recommend using conventional chlorhexidine scrub as a standard method for preoperative hand antisepsis. Waterless hand rub may be used if the higher cost is affordable.

**References**