**Learning Activity:**

| LEARNING OBJECTIVES | EXPANDED CONTENT OUTLINE |
|---|---|
| Effective perioperative hand antisepsis is crucial for the safety of patients and medical staff in surgical rooms. The antimicrobial effectiveness of different antiseptic methods including conventional scrubbing and waterless rubbing has not been well evaluated. | OBJECTIVE |
| A randomized controlled trial (RCT) was conducted to investigate the effectiveness of the three antiseptic methods in surgical staff of Taipei Medical University-Shuang Ho Hospital. Each groups enrolled 80 participants. | DESIGN, SETTING, AND PARTICIPANTS |
| Surgical hand cleansing with conventional 10% povidone–iodine scrub, conventional 4% chlorhexidine scrub, or waterless rub (1% chlorhexidine gluconate and 61% ethyl alcohol). | INTERVENTION |
| The mean colony-forming unit (CFU) count were collected using the hand imprinting method before and after disinfection and after surgery. After surgical hand disinfection, CFU count of the conventional chlorhexidine ($0.48 \pm 0.22$, $P < 0.01$) and waterless rub groups ($1.38 \pm 0.74$, $P < 0.05$) was significantly lower than that of the conventional povidone group ($4.29 \pm 1.25$). 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 antiseptic method ($P = 0.0036$), but not other variables, predicted the mean CFU count. | RESULTS |
| Conventional chlorhexidine scrub and waterless rub were superior to conventional povidone–iodine in bacterial inhibition. We recommend using the conventional chlorhexidine scrub as a standard method for perioperative hand antisepsis. Waterless rub may be used if the higher cost is affordable. | CONCLUSIONS |