

# COMPARING OUTCOMES BETWEEN MEPILEX WHITE AND MEPILEX SILVER FOR TRACHEOTOMY DRESSINGS- A RANDOMIZED CONTROLLED TRIAL

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## Keywords:

**Background:** The purpose of the study is to ascertain the incidence of wound complications in relation to the type of dressing used post operatively and to evaluate the effectiveness of antimicrobial dressings to reduce early complications in tracheostomy patients

**Materials/Methods:** A prospective, randomized trial of pediatric patients undergoing tracheostomy placement was conducted at a single institution. Patients from 0 to 18 years of age and of all ethnicities were included. Cohort number one received Mepilex Silver for tracheostomy dressing, and cohort number two received Mepilex White for trach dressing. Radom.org was utilized to randomly distribute the participants amongst the two cohorts. All patients received standard post-operative wound care and daily stomal examination. Wound-related complications, breakdown, granulation, infection, and adverse event were recorded for the first 7 days after surgery. Noninferiority testing was utilized to show that Mepilex White dressing group has noninferior and equivalent wound complication rate compared to the Mepilex Silver dressing group. The hypotheses used for this study was:  $H_0: p_1 \geq p_2 + \delta$  and  $H_1: p_1$

**Results:** A total of eighty-two patients, fifty-two in cohort one and thirty in cohort two were enrolled and analyzed in the study. The significant noninferiority test p-value showed that the Mepilex Silver dressing group is no more than 10% complication rate than that of Mepilex White dressing group ( $p = 0.0108$ ).

**Conclusions:** No significant difference was found between Mepilex Silver and Mepilex White dressings in the immediate post-op period for tracheostomy patients. Further work is needed to analyze additional factors that could contribute to poor post-operative stoma healing such as bacterial colonization.

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