

*Extended Abstract*

## **The effect of negative pressure wound therapy use after Cesarean section**

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### **Objectives**

The aim of the study was to identify whether negative pressure wound therapy reduced the incidence of surgical site infections after a cesarean section.

### **Methods**

We retrospectively reviewed all cesarean sections performed at The University of Iowa from January 2018 to January 2021. Demographic information was collected including age, BMI, pre-existing or gestational diabetes, and preoperative diagnosis of chorioamnionitis. Incidence and type of surgical site infection based on the

Centers for Disease Control (CDC) National Healthcare Safety Network (NHSN) criteria was collected. A PICOTM dressing was used from January 2018 – January 2019. A standard sterile dressing was used from January 2019 – January 2020. The PrevenaTM dressing was used from January 2020 – January 2021. A multivariate analysis was conducted to compare infection rates, readmission/re-operation rates and post-procedure related skin and subcutaneous tissue problems between the PICOTM, PrevenaTM and control group. Logistic regression models adjusted for covariates were used to compare infection rates and Cox proportional

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hazard regression models were used to evaluate timing of infection among the dressing types.

## **Results**

A total of 1,617 patients were reviewed. 665 had a PICOTM dressing, 560 had a PrevenaTM dressing and 392 were in the control group. There was no statistical difference in infection rates within 30 days among the groups ( $P = 0.15$ ). There was no statistical difference in readmission ( $p = 0.23$ ) or re-operation ( $p = 1.00$ ) among the groups. There was no statistical difference in seroma ( $p = 0.43$ ), hematoma ( $p = 0.48$ ), or wound dehiscence ( $p = 0.28$ ) among the groups. There was a significant increase in adhesive irritation in patients using a PrevenaTM ( $p = 0.003$ ). There was no significant difference in the odds ratio of developing an infection within 30 days among the dressing types nor was there a significant difference in time to infection development among the groups.

## **Conclusion**

Our study shows that there were no significant differences in infection and re-admission/re-operation rates between the PICOTM, PrevenaTM and control group dressing type. The PrevenaTM group had a significant increase of adhesive irritation. This study suggests that there may not be a role for negative pressure wound therapy after cesarean sections.

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