

Study Stats



Does DERMABOND® PRINEO® Skin Closure System reduce hospital costs, hospital length of stay, and wound complication rate in Cesarean section compared to standard of care?

Retrospective, observational study using the Premier® Perspective Hospital Database

Clinical and economic outcomes of cesarean deliveries with skin closure through skin staples plus waterproof wound dressings versus 2-octyl cyanoacrylate plus polymer mesh tape.

Johnston S, Chen B, Nayak A, Lee S, Costa M, Tommaselli G. *J Matern Fetal Neonatal Med.* 2021 Jun;34(11):1711-1720. doi: 10.1080/14767058.2019.1645830. Epub 2019 Aug 1. PMID: 31315503.



CONCLUSION

In a retrospective study, C-section closure with DERMABOND PRINEO System was associated with lower total hospital costs, shorter hospital stay, and fewer wound complications compared to skin staples with wound dressings.*



Over the past 30 years, the average global C-section rate has increased roughly 5% each year.²

The prevalence of this procedure—combined with the fact that a wound complication occurs in 1 out of every 20 C-sections³—creates a huge opportunity for an innovative wound closure product that can improve clinical and economic outcomes versus standard of care.

METHODS

- Retrospective, observational study of Premier® Perspective data from over 700 hospitals between January 2012 and March 2017
- Patients >18 years old who had either DERMABOND PRINEO System or skin staples with wound dressing for C-section closure
- Study groups propensity score matched according to patient demographics, admission and hospital/provider characteristics, obstetric history, comorbidities, and other variables

**4,266
C-sections**

STATISTICAL ANALYSIS METHODS

- Groups propensity score matched using preferential within-cluster,[†] variable-ratio (1:3/weighted,[‡] caliper=0.2) matching to balance groups and minimize bias
- After matching, multivariable regression analyses controlled for selected characteristics that still differed between groups



Primary Endpoints: Total hospital costs, hospital length of stay

Exploratory Endpoints: Wound complications, 30-, 60-, and 90-day all-cause readmissions

DERMABOND PRINEO
System Group

n=2,133

C-section Wound Closure

VS



Skin Staples with Wound
Dressing Group

n=2,133

C-section Wound Closure



RESULTS

Total Hospital Costs*

C-section closure with DERMABOND® PRINEO® Skin Closure System was associated with lower total hospital costs compared to skin staples.

DERMABOND PRINEO System saved an average of \$434 in hospital costs

P=0.025

P values <0.05 denote statistical significance.



Hospital Length of Stay*

Patients in the DERMABOND PRINEO System group had a shorter hospital length of stay compared to skin staples.

DERMABOND PRINEO System patients experienced a 5% reduction in length of stay

P=0.007

P values <0.05 denote statistical significance.



In addition to DERMABOND PRINEO System's clinical benefits, no postsurgical dressings may mean easier self-care and greater self-confidence for patients.⁴



Average in-patient daily cost is \$2,271⁵

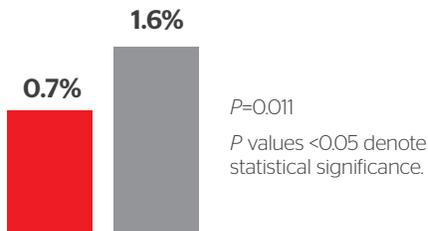
Wound Infections and Wound Complications*

Following C-section, patients in the DERMABOND PRINEO System group had fewer wound infections and wound complications compared to skin staples.



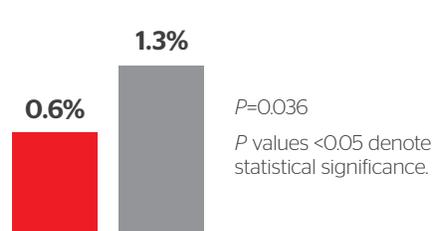
DERMABOND PRINEO System provides a flexible microbial barrier with 99% protection in vitro for 72 hours against organisms commonly responsible for SSIs^{6†}

Wound Infection Rate



DERMABOND PRINEO System patients experienced **fewer wound infections**

Wound Complication Rate



DERMABOND PRINEO System patients also encountered **fewer wound complications**

■ DERMABOND PRINEO System
■ Skin staples with wound dressing

For complete indications, contraindications, warnings, precautions, and adverse reactions, please reference full package insert.

*Due to the non-randomized nature of this study, causality cannot be established for the observed relationships. Other unmeasurable variables, such as provider skill and overall patient health, may lead to residual confounding after adjusted analyses.

†*Staphylococcus epidermidis, Escherichia coli, Staphylococcus aureus, Pseudomonas aeruginosa, and Enterococcus faecium.*

References: **1.** Johnston S, Chen B, Nayak A, Lee S, Costa M, Tommaselli G. Clinical and economic outcomes of cesarean deliveries with skin closure through skin staples plus waterproof wound dressings versus 2-octyl cyanoacrylate plus polymer mesh tape. *J Matern Fetal Neonatal Med.* 2021 Jun;34(11):1711-1720. doi: 10.1080/14767058.2019.1645830. Epub 2019 Aug 1. PMID: 31315503. **2.** Betran AP, Ye J, Moller AB, et al. The increasing trend in cesarean section rates: global, regional, and national estimates: 1990-2014. *PLoS One.* 2016;11(2). **3.** Mackeen AD, Schuster M, Berghelia V. Suture versus staples for skin closure after cesarean: a meta analysis. *Am J Obstet Gynecol.* 2015;212(5):621e1-10. **4.** De Cock E, F, Mueller K, Tan R. Changing the surgical wound closure management pathway: time and supplies with PRINEO vs. standard of care for abdominoplasty surgery in Germany. Poster presented at: International Society for Pharmacoeconomics and Outcomes Research, 11th Annual European Congress: November 2008; Athens, Greece. **5.** Hospital Adjusted Expenses per In-patient Day. Kaiser Family Foundation website. Available at: <http://kff.org/health-costs/state-indicator/expenses-per-inpatient-day/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>. Accessed May 19, 2017. **6.** Su 06TR071. Study Report for in vitro evaluation of microbial barrier properties of DERMABOND ProTape. Ethicon, Inc.