

**Title:**

Impact of Converting from Povidone Iodine to Chlorhexidine Gluconate for Vaginal Preparation Prior to Hysterectomy

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**Background/Synopsis:**

Our institution was struggling with higher than average or acceptable surgical site infection (SSI) rates after gynecologic procedures, specifically hysterectomy. Increased SSI rates are not only a risk and burden for our patients, but also result in higher financial costs to the health system due to readmission and need for further treatment.

While there are many factors that influence a patient's risk of infection, one well documented risk factor is contamination of the surgical site by vaginal flora, due to the anatomical proximity of the sites. While vaginal preparation to reduce this risk is standard, there is evidence to suggest that the appropriate choice of preparation is chlorhexidine gluconate (CHG) over Povidone-iodine (PI).

**Objective/Purpose:**

Will conversion from PI to CHG for vaginal preparation prior to gynecologic surgery across all gynecologic surgical specialties at a single academic institution improve SSI and Standardized Infection Ratio (SIR) rates?

**Methods:**

First a quality improvement process was implemented to educate all providers, trainees, and operating room staff about proper vaginal preparation technique and the wide-spread conversion to CHG for vaginal prep. Implementation of CHG began on June 1, 2021. All hysterectomies performed for any reason by any specialty were included, with the exception of patients with a documented CHG allergy.

SSI rates were collected as well as patient demographic factors. SIRs were calculated. A SIR is a risk adjusted statistic that compares the actual number of infections to the predicted number of infections, based on patient population. The number of predicted infections is calculated using multivariable regression models generated from nationally aggregated data during a baseline time period. A SIR of 1 means the number of actual infections is the same as the number predicted, so a SIR of 1 or less is ideal. A SIR of greater than 1 suggests the hospital is performing worse than expected. The SSI rates and SIRs were compared from pre-intervention (Q1 2019 – Q2 2021) to post-intervention (Q3 2021 – Q4 2021). Data are forthcoming for Q1 and Q2 2022.

**Results:**

The average SSI rate pre-intervention was 1.66 per 100 cases. This decreased to 1.12 post-intervention. The SIR was 1.26 pre-intervention, and decreased to 0 post-intervention. More data is forthcoming for Q1 and Q2 2022.

**Conclusion:**

At this point, our data suggests that CHG for vaginal prep prior to gynecologic surgery results in a decreased SSI rate and SIR. This data has the potential to impact our hospital's state and national rankings, as well as have a positive impact on our patient's surgical outcomes. Decreasing SSIs is an important quality improvement goal when considering quality-based reimbursement and healthcare spending.