

2.8–81,  $P = 0.0004$ ). However, children in the placebo group were only 1.1 times more likely to be colonized with MRSA after one month compared with the retapamulin group (OR 1.1, CI 0.3–3.9,  $P = 1$ ). (\*Full data analysis currently in progress with additional results available soon.)

**Conclusion.** In this small pilot randomized trial, children who received retapamulin had a significantly lower rate of MRSA colonization and higher rates of clearance compared with placebo at one week post decolonization, but no significant difference at the one month mark. These data suggest that retapamulin is a promising alternative short-term nasal and peri-rectal decolonizing therapy in order to prevent infections and the spread of this mupirocin-resistant MRSA clone among pediatric patients in this affected community and our hospital.

**Disclosures.** All authors: No reported disclosures.

### 569. Evaluation of a Povidone-Iodine Preparation for Nasal Decolonization of Methicillin-Resistant *Staphylococcus aureus*

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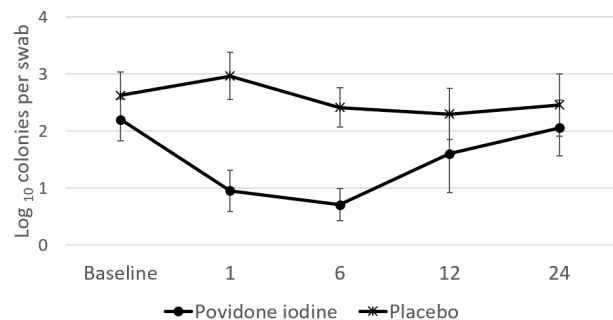
**Background.** Mupirocin is commonly used for nasal decolonization of *Staphylococcus aureus*, but it has limitations including frequent emergence of resistance and non-adherence due to the need for repeated applications. Povidone-iodine is increasingly used as an alternative for nasal decolonization because it has a low propensity for emergence of resistance and rapid in vitro antibacterial activity. However, limited data are available on the microbiological efficacy of povidone-iodine for suppression of nasal *S. aureus*.

**Methods.** We compared the effectiveness of a single application or 5 days of twice daily application of a commercial 10% povidone-iodine preparation vs. phosphate-buffered saline for a reduction in nasal MRSA in methicillin-resistant *S. aureus* (MRSA)-colonized patients (9–11 per treatment group). Nasal swabs were collected for quantitative culture of MRSA before and at 1, 6, 12 and 24 hours after the single application or before each dose for the 5-day regimen. Analysis of variance was used to compare MRSA colony counts in povidone iodine vs. control patients.

**Results.** The concentrations of MRSA in the nares were similar for povidone-iodine and control group patients prior to treatment. As shown in the figure, the single application of povidone-iodine resulted in a statically significant reduction in nasal MRSA in comparison to controls at 2 and 6 hours after treatment (P10 colonies per swab).

**Conclusion.** Our findings suggest that single preoperative applications povidone-iodine could be useful for short-term suppression of *S. aureus* during the perioperative period. Additional studies are needed to evaluate the efficacy of the povidone-iodine preparation for MRSA decolonization when used at more frequent dosing intervals or in combination with chlorhexidine bathing.

**Figure.** Effect of a single application of povidone iodine versus phosphate-buffered saline on concentration of nasal MRSA



**Disclosures.** All authors: No reported disclosures.

### 570. Impact of Discontinuation of Methicillin-Resistant *Staphylococcus aureus* Contact Precautions on Bloodstream Infection Rates at an Academic Medical Center

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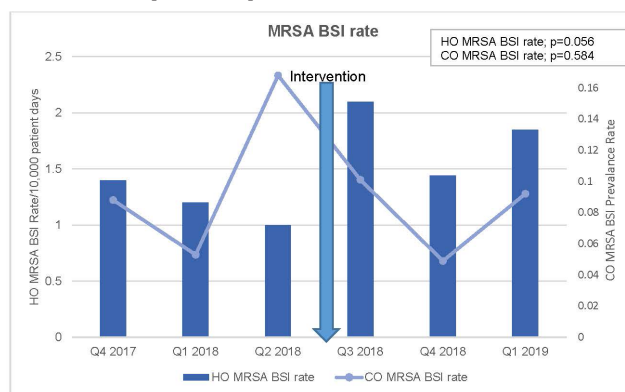
**Background.** Contact precautions (CP) in methicillin-resistant *Staphylococcus aureus* (MRSA) patients along with hand hygiene has been considered a gold standard to prevent transmission. The actual impact of these measures in reducing MRSA infections is still controversial. At our institution, we evaluated the impact of discontinuation

of MRSA CP on hospital-onset (HO) and community-onset (CO) MRSA bloodstream (BSI) rates. We also analyzed consequential cost savings.

**Methods.** The University of Mississippi Medical Center is a 700+ bed academic facility located in Jackson, MS. Patients admitted to any inpatient units with diagnoses or history of MRSA infection or colonization were subjected to CP during their stay. In July 2018, we discontinued MRSA CP across all inpatient units (except neonatal intensive care unit). HO MRSA BSI rate was calculated per National Healthcare Safety Network (NHSN) laboratory-identified event. CO MRSA BSI was reported per NHSN admission prevalence rate. One-way Analysis of Variance (ANOVA) was performed to compare pre- and post-intervention data.

**Results.** There was a rise in HO MRSA BSI rate after discontinuation of CP (July 2018–March 2019) in comparison to the 9-month pre-intervention period (October 2017–June 2018); however, the difference was not statistically significant (1.79/10,000 patient-days vs. 1.2/10,000 patient-days;  $P = 0.056$ ). Similarly, CO MRSA BSI prevalence rate did not show a statistically significant difference between pre- and post-intervention period (0.103 vs. 0.08;  $P = 0.584$ ). The total annualized cost savings on personal protective equipment (PPE) was an estimated \$193,398 post-intervention. Hand hygiene (HH) compliance was higher in post-intervention compared with pre-intervention period (83% vs. 78%,  $P = 0.0007$ ).

**Conclusion.** At our institute, discontinuation of MRSA CP was associated with an insignificant rise in HO MRSA BSI rates. No impact was observed on CO MRSA BSI prevalence. We had a 34% reduction in PPE expenditure. We observed an increase in HH compliance post-discontinuation of CP, but it did not reduce MRSA BSI rates. Further studies are needed to evaluate the impact of bundling hand hygiene practices with other horizontal strategies (prevention bundles, chlorhexidine bathing, environmental disinfection practices) in prevention of MRSA infections.



**Disclosures.** All authors: No reported disclosures.

### 571. Determining the Utility of Methicillin-Resistant *Staphylococcus aureus* Nares Screening in Antimicrobial Stewardship

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**Background.** Treatment of suspected Methicillin-resistant *Staphylococcus aureus* (MRSA) is a cornerstone of many antibiotic regimens; however, some anti-MRSA antibiotics are associated with toxicity. The Veterans Affairs (VA) screens each patient on admission for MRSA nares colonization. The objective of this study was to determine whether MRSA nares screening can be used as a stewardship tool for de-escalation as well as avoidance of anti-MRSA therapy.

**Methods.** This was a retrospective cohort study across VA medical centers nationwide from January 1, 2007 to January 1, 2018. Data from patients with MRSA nares screening were obtained from the Corporate Data Warehouse. Subsequent clinical cultures within 7 days of the nares swab were evaluated for the presence of MRSA. Sensitivity, specificity, positive predictive values (PPVs), and negative predictive values (NPVs) were calculated for the entire cohort, as well as subgroups for specific culture sites. Cultures were considered to be from a sterile site if they were from a fluid/aspirate, bone, tissue, or blood taken from the periphery. NPVs and PPVs were calculated for each of these sterile sites.

**Results.** A total of 447,579 clinical cultures were included in the final analysis. The NPV of MRSA nares screening for ruling out MRSA was 95.7% for all cultures submitted. The sensitivity and specificity for positive clinical cultures were 67.4% and 83%, respectively. The NPV for bloodstream infections ( $n = 64,128$ ) was 96.2% for intra-abdominal cultures ( $n = 8,071$ ) was 97.9%, for respiratory cultures ( $n = 75,242$ ) was 95.3%, for wound cultures ( $n = 95,832$ ) was 90.4%, and for renal cultures ( $n = 164,330$ ) was 99.1%. NPVs for sterile sites are as follows: intra-abdominal ( $n = 7,426$ ) was 98.1%, respiratory ( $n = 15,583$ ) was 95.2%, wound ( $n = 51,793$ ) was 91%.

**Conclusion.** MRSA nares screening has a high NPV and specificity for ruling out potential MRSA infections at a variety of culture sites including bloodstream, intra-abdominal, respiratory, renal, and wounds. MRSA nares screening is a powerful stewardship tool for de-escalation and avoidance of empirical anti-MRSA therapy.