

**IMPLEMENTATION OF A METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) PREVENTION BUNDLE RESULTS IN DECREASED MRSA SURGICAL SITE INFECTIONS**

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**Background:** Surgical Site Infections (SSIs) are the second most common (24%) nosocomial infection and are preventable. Specifically, methicillin resistant staphylococcus aureus (MRSA) SSIs have been shown to prolong hospital stay, increase costs and significantly increase mortality. The increasing incidence of MRSA has led to national mandates to institute measures of prevention. In late 2006, our hospital committed to implementation of an MRSA prevention bundle in an attempt at decreasing MRSA transmission. Our objective was to examine the impact of the MRSA bundle on SSIs.

**Methods:** The MRSA bundle consisting of: 1)MRSA nasal screening of patients upon admission and discharge, 2)contact isolation of positive patients, 3)standardized hand hygiene, 4)cultural transformation campaign with staff and leadership engagement through positive deviance and 5)ongoing monitoring of process and outcome measures was implemented hospital wide by January 2007. Data regarding effectiveness of admission and discharge MRSA nasal screening, prevalence of MRSA, rates of MRSA transmission, overall MRSA infections and cardiac(CT) and orthopedic(Ortho) SSIs were collected over two years. Chi Square was used for statistical analyses.

**Results:** There was an increase in effectiveness of admission and unit discharge MRSA nasal screening from 94% and 82% in 2007 to 95.3% and 86% in 2008. The prevalence of MRSA did not change and was 18% of all admitted patients. There was a significant decrease in MRSA transmissions after implementation of the MRSA bundle (2007:5.8 per 1000 bed days, 2008:3.0 per 1000 bed days,  $p < 0.05$ ). Overall MRSA nosocomial infections decreased from 2.0 to 1.0 per 1000 bed days. Moreover, there was a significant decrease of 25% in Ortho-MRSA SSIs and 50% in CT-MRSA SSIs over that time period.

**Conclusion:** Successful hospital wide implementation of the MRSA prevention bundle not only decreases MRSA transmission between patients but also significantly decreases MRSA SSIs. Further study on the impact of the bundle on other SSIs and other nosocomial infections is underway.