Preventing surgical site infections in patients colonized with *Staphylococcus aureus*

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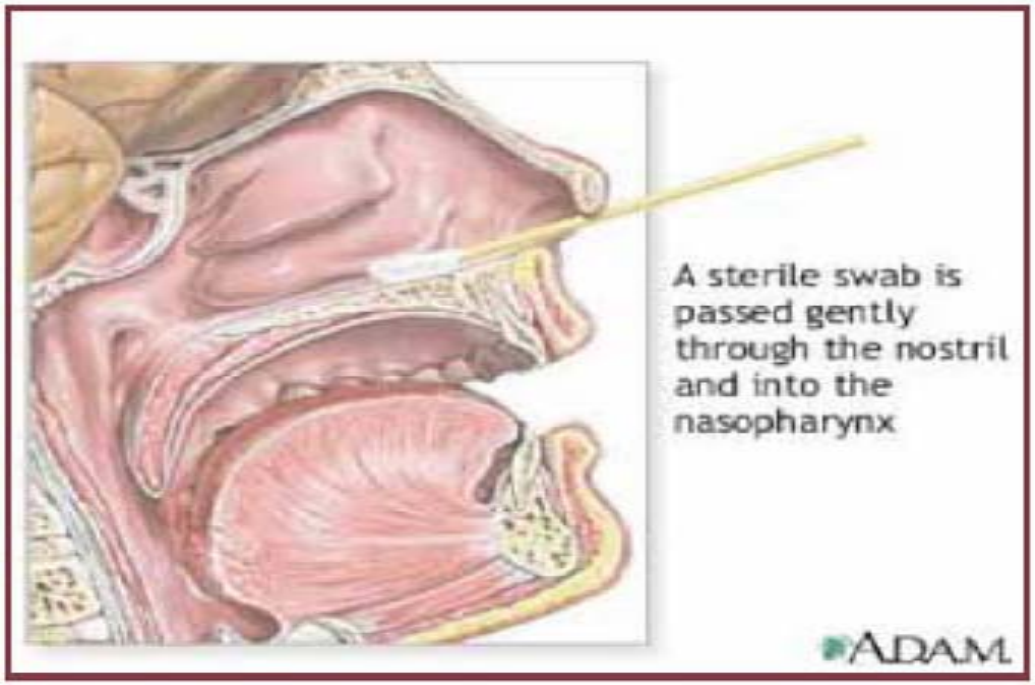
Goal:



To identify asymptomatic pre-operative patients colonized with Methicillin Resistant *Staphylococcus aureus* (MRSA) and Methicillin Sensitive *Staphylococcus aureus* (MSSA) to reduce surgical site infections

Background:

- **Surgical site infections(SSI) are the 2nd most common nosocomial infection and the most common nosocomial infection among surgical patients. Nationally, 77% of surgical mortality was related to infections.**
- **SSIs increases length of hospital stay and cost.**
- **The source of the pathogen is usually the endogenous flora from the patient's skin, mucous membranes or hollow viscera.**
- **The most common SSI pathogen is *Staphylococcus aureus* (MRSA/MSSA).**

Process Implementation:

- **Infection Prevention and the ARNP for Surgical Services researched the problem of SSIs and eradication of MSSA/MRSA in all surgeries.**
- **Meetings held with hospital clinical and administrative leadership.**
- **Letter distributed to medical staff and surgeons to inform them of the process.**
- **Presentation to Surgical Services: Pre-Admissions, Operating Room, Pre-op and PACU**

PATIENT POPULATION:

- Total Joint Replacements
- Vascular Grafts
- Implantable Cardiac Devices
- Breast Implants
- Hernia Repair with Mesh
- Spinal Implants

Process:

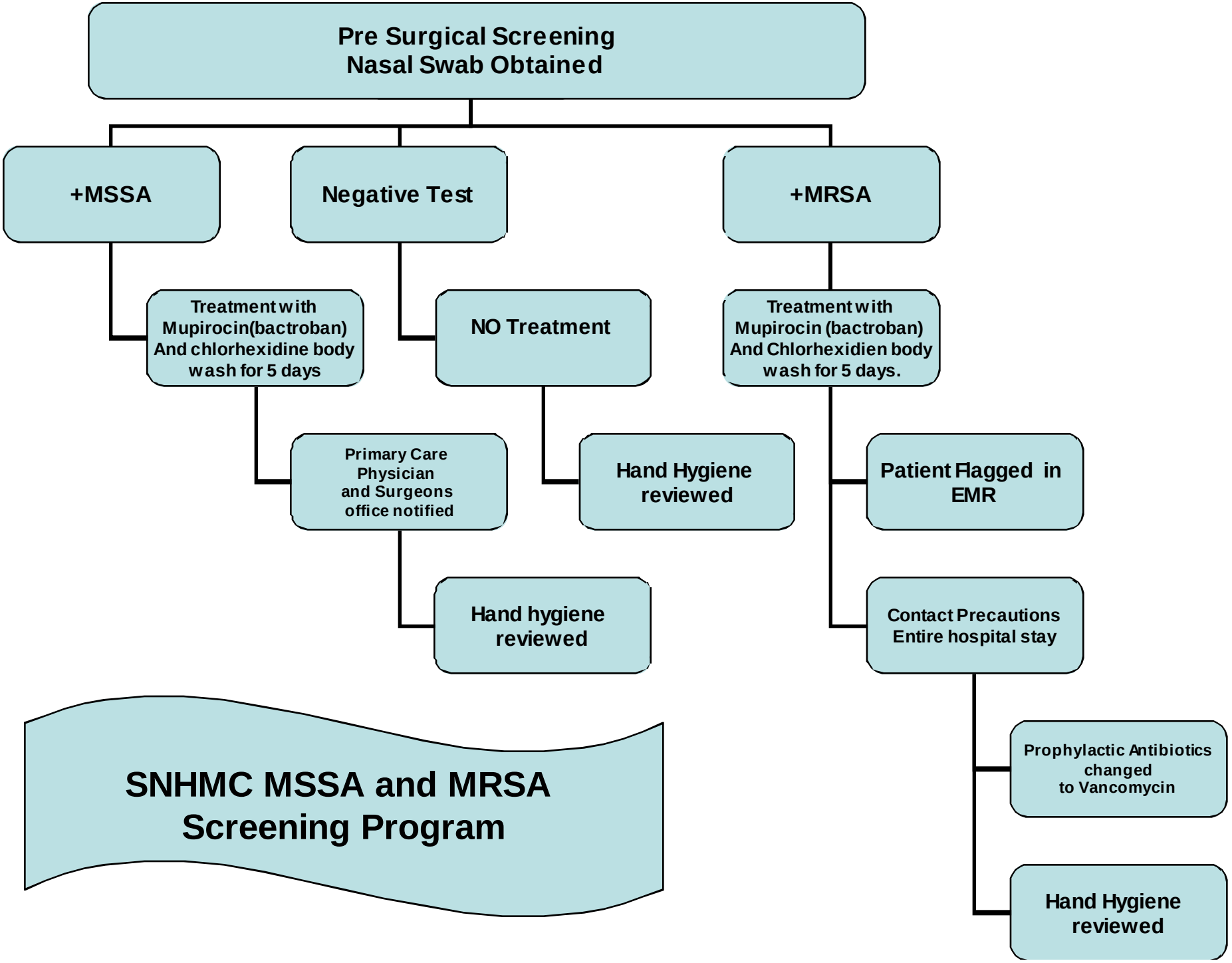
- **1-2 weeks prior to surgery, nasal swab for culture obtained from patient. Instructions and prescriptions given to patient.**
- **Culture reports called to ARNP/Pre-Admissions.**
- **Patient notified by phone of the positive result. Instructions reviewed for treatment.**
- **Culture negative - no action taken.**
- **Surgeons and Primary Care providers informed of results.**

Treatment of Positive Cultures for either MRSA/MSSA

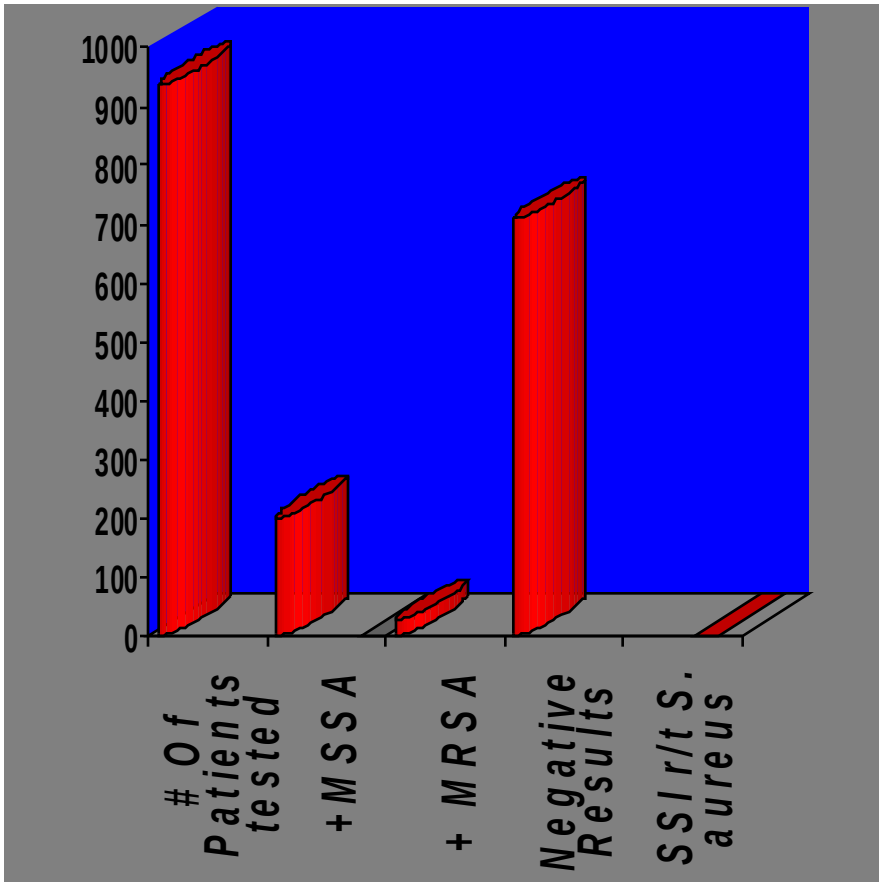
- **Prescription for intranasal mupirocin (Bactroban) applied to anterior nares twice daily for 5 days.**
- **Instructions to purchase chlorhexidine body wash to use 5 days prior to surgery**
- **Treatment-for up to 5 days.**

MRSA Positive

- **Surgeons also notified by phone call.**
- **Antibiotics changed to Vancomycin for MRSA positive.**
- **Contact precautions initiated on arrival to surgical services.**


Pre Surgical Screening
Nasal Swab Obtained
+MSSA
Negative Test
+MRSA
Treatment with Mupirocin(bactroban) And chlorhexidine body wash for 5 days
NO Treatment
Treatment with Mupirocin (bactroban) And Chlorhexidien body wash for 5 days.
Primary Care Physician and Surgeons office notified
Hand Hygiene reviewed
Patient Flagged in EMR
Hand hygiene reviewed
Contact Precautions Entire hospital stay
Prophylactic Antibiotics changed to Vancomycin
Hand Hygiene reviewed
SNHMC MSSA and MRSA Screening Program

Results:



- % of patients colonized is similar to published data.
- 384 patients screened
- 4% of our patients tested + for MRSA
- 36% of our patients tested + for MSSA
- 3 *S. aureus* SSI in screened patients

Conclusions

- Patients colonized with MSSA and MRSA are identified and decolonized prior to surgery.
- Prophylactic antibiotic changed if necessary.
- Implementation had decreased our infections related to MSSA/MRSA.

Opportunities for improvement:

- Schedule pre-op interview/screening to allow for completion of decolonization protocol.

- Upgrade laboratory technology to improve accuracy and decrease turn around time.