

# MRSA Surgical Site Infection Outbreak And Colonization Rates Amongst Operating Room Personnel

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## INTRODUCTION

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a major hospital acquired pathogen that is often difficult to manage resulting in severe morbidity and mortality worldwide [1]. Colonized healthcare workers remain an important source of MRSA. Nasal carriage of this pathogen amongst operating room healthcare workers is a common cause of surgical site infection. The purpose of our study was to assess the prevalence of MRSA colonization amongst operating room healthcare workers during an outbreak at our institution.

## METHODOLOGY

Nasal swab cultures were performed in 598 operating room staff, screening for methicillin-resistant *Staphylococcus aureus* and were cultured on blood and mannitol salt agar. Antibiotic susceptibility test was performed by modified Kirby-Bauer disc diffusion method. Methicillin resistance was detected using cefoxitin disc diffusion method. Those screened comprised of doctors and healthcare workers from orthopaedics, general surgery, obstetrics and gynaecologists, dentists, ORL and anaesthesiology unit.

## RESULTS

A total of 598 operating room staff and doctors were screened. Of those screened, 45 (7.5%) were nasal carriers of MRSA. Highest MRSA nasal carriage rate of 78% (35/ 45) were seen in doctors. Amongst doctors, orthopaedic unit had the highest nasal colonization rates of 26% (9/35). Amongst the supporting staff, orthopaedics and anaesthesiology unit comprised the rest (10/45).

## DISCUSSION

Although *staphylococcus aureus* are normal commensals of our skin, methicillin resistant strain continues to cause increasing mortality

and morbidity in clinical setting and is associated with life threatening infection and increase in surgical site infection (2). While the prevalence of MRSA in healthcare communities varies (3) the role of MRSA carrier is crucial in preventing horizontal transmission and preventing outbreak (4), especially in healthcare centers. While mupirocin cream eliminates MRSA, 25% of the carriers are detected to have it again after 3 month follow up (5).

## CONCLUSION

This study revealed that the prevalence of nasal carriage of MRSA was highest among doctors and had most likely been the contributing factor in the MRSA surgical site infection outbreak. The high rate of nasal MRSA colonization among doctors is alarming and highlights the need for improved infection control measures at our institution.

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