

# Antibiotic Sensitivity Profiles in Hand Infections: Changing MRSA Drug Resistance Profiles

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## Objectives

Methicillin-resistant Staphylococcus Aureus (MRSA) has been the most commonly identified pathogen in hand infections at urban centers, but the evolving antibiotic sensitivity profiles of MRSA is not known. The purposes of this study are to determine if multi-drug resistance in MRSA is emerging and to provide current recommendations for empiric antibiotic selection for hand infections in endemic regions.

## Methods

An 8-year longitudinal, retrospective chart review was performed on all culture-positive, hand infections encountered by an urban hospital from 2005-2012. The proportions of all major organisms were calculated for each year. MRSA infections were additionally analyzed for antibiotic sensitivity.

Figure 1: Cultured Organisms per Annum

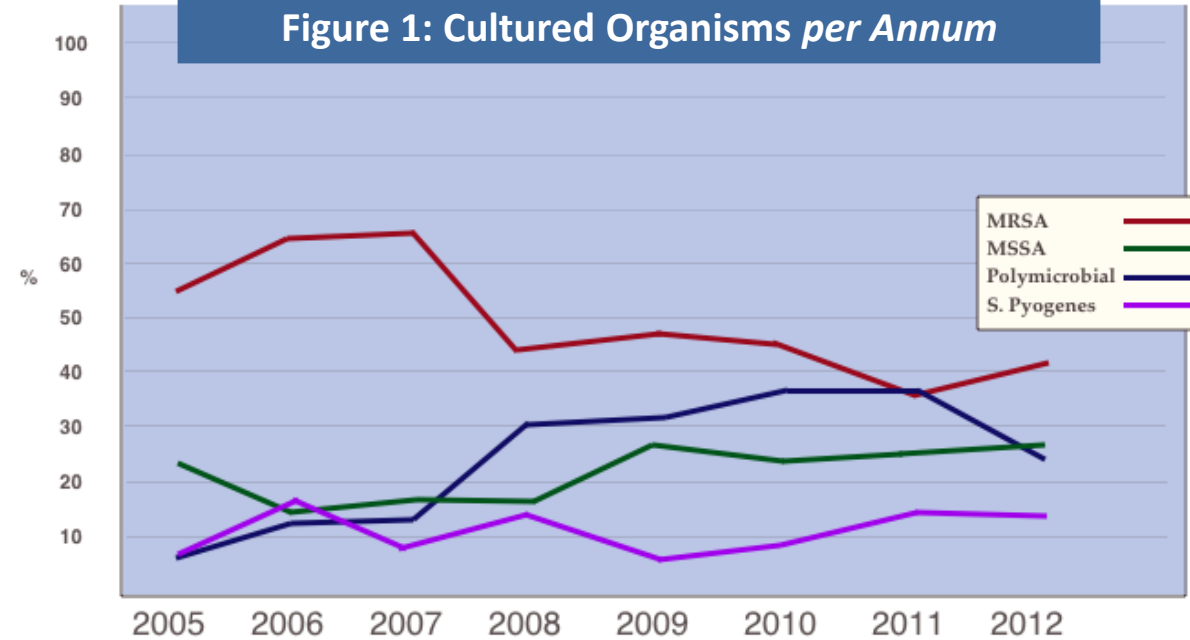
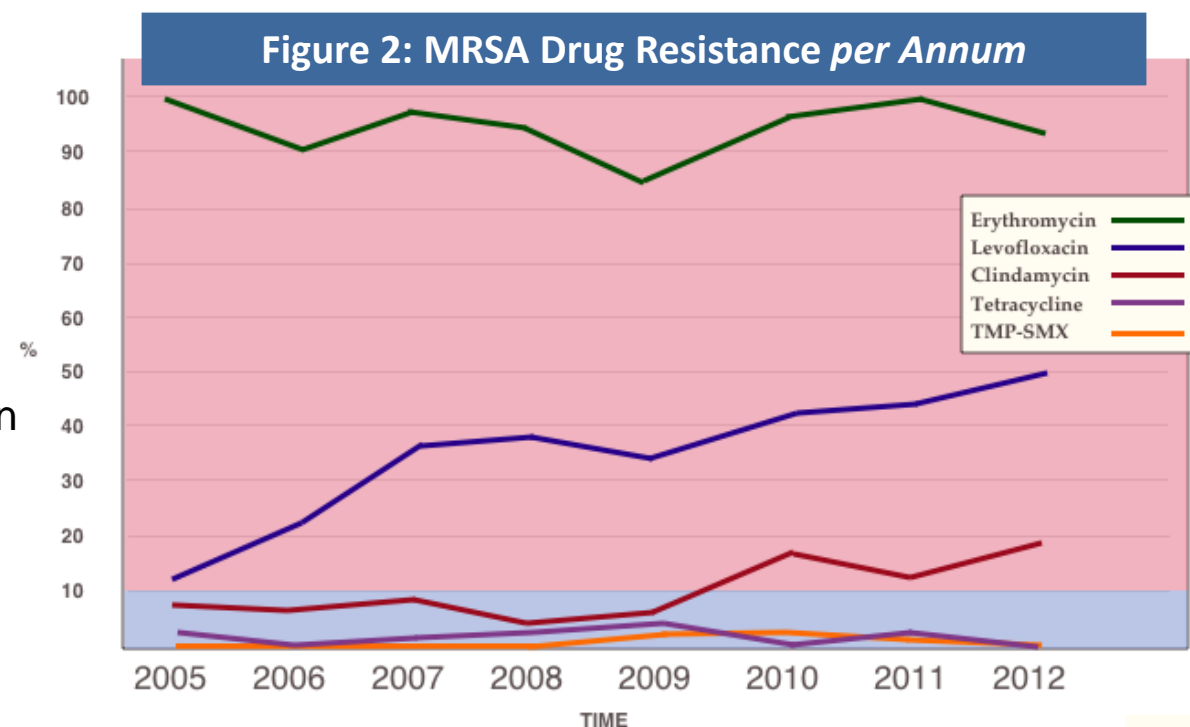


Figure 2: MRSA Drug Resistance per Annum



## Results

A total of 683 culture-positive hand infections were identified. Overall, MRSA was cultured in 49% of cases; the annual incidence peaked in 2007 at 65% then declined to 41.8% by 2012. MRSA was universally resistant to penicillin, oxacillin, and ampicillin. Clindamycin resistance significantly increased approaching 20% by 2012 (p=0.02). Levofloxacin resistance linearly increased from 12% to 50% (p<0.01). Resistance to trimethoprim-sulfamethoxazole, tetracycline, gentamycin, and moxifloxacin were only sporadically observed. Resistance to vancomycin, daptomycin, linezolid, and rifampin were not observed.

## Conclusion

Significant increases in resistance to clindamycin and levofloxacin were observed in recent years, and empiric therapy with these drugs should be used with caution especially in urban centers.

\*\*The authors have no relevant disclosures relating to this study