

Low Rate of MRSA Colonization Among Residents is Stable Over Time

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Background: Community-associated methicillin resistant *Staphylococcus aureus* (CA-MRSA) causes the majority of skin and soft tissue infections in emergency departments (EDs). We hypothesized that house staff at a hospital with a high incidence of CA-MRSA infections might be colonized with CA-MRSA and that MRSA colonization rates might increase with progression in level of training and cumulative time spent within the hospital.

Objectives: To examine nasal *S. aureus* colonization and the proportion that was MRSA among residents in an urban hospital. To annually monitor colonization, including MRSA, and examine longitudinal trends among residents.

Methods: This was an observational study conducted in residencies (emergency medicine, internal medicine, general surgery, oral surgery) working primarily at an urban, county, academic hospital. Cultures obtained from the anterior nares with a Dacron swab underwent culture and susceptibility testing and selective MRSA culture. Samples were obtained from residents during June-December 2007. Culture results for each resident were compared to their prior results from June-December 2006, when available.

Results: One hundred thirty-seven of 170 residents underwent testing. Five were colonized with *S. aureus*, yielding an overall rate of 3.6% (95% CI = 1.2 to 8.3%) of which three (2.2%; 0.5-6.3%) were MRSA and two (1.4%; 0.2-5.2%) methicillin susceptible *S. aureus* (MSSA). Culture results from years one and two were compared in the 78 subjects for whom they were available. Colonization rates for *S. aureus*, MRSA and MSSA in year two were 5.1% (1.4-12.6%), 3.8% (0.8-10.8%) and 1.3% (0.0-6.9%), respectively. Corresponding rates in year one were 6.4% (2.1-14.3%), 3.8% (0.8-10.8%), 2.6% (0.3-9.0%). Two of three MRSA positive subjects in year one were negative in year two, whereas two of three MRSA positive subjects in year two had previously been negative.

Conclusions: Both the overall *S. aureus* and MRSA colonization rates in our residents were low and remained stable over a one-year period. However, colonization among individuals was dynamic.