

# Prevalence of methicillin-resistant *Staphylococcus aureus* on the stethoscopes of emergency medical services providers

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## Abstract

**Objective:** The investigation seeks to determine the prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) on the stethoscopes of emergency medical services (EMS) providers. While stethoscopes are known fomites for MRSA, the prevalence of MRSA in the prehospital setting is not well documented in the literature.

**Methods:** This was a prospective, observational cohort study of 50 stethoscopes provided by consecutive, consenting EMS providers at our academic emergency department (ED). Stethoscopes were swabbed with saline culture applicators and samples were cultured on a commercial MRSA test kit containing mannitol salt agar with oxacillin. After 72 hours of incubation at 37 degrees C, two emergency physicians and one microbiologist analyzed the plates independently. MRSA colonization was recorded as positive if all three reviewers agreed that colonization had occurred.

**Results:** Of 50 stethoscopes, 16 had MRSA colonization, and 16 (32%) EMS professionals had no recollection of when their stethoscopes had been cleaned last. Reported length of time since last cleaning was grouped into six categories: one to seven days, eight to 14 days, 15 to 30 days, 31 to 180 days, 181 days to 365 days, and unknown. The median time frame reported since the last cleaning was one to seven days. In the model, an increase from one time category to the next increased the odds of MRSA colonization by 1.86 (odds ratio = 1.86,  $p = 0.038$ ).

**Conclusions:** In this ED setting, MRSA was found on approximately one in three stethoscopes of EMS professionals. A longer length of time since the last stethoscope cleaning increased the odds of MRSA colonization.

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