

Stethoscopes: a potential vector of infection?

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STUDY OBJECTIVES: To survey emergency care providers about their stethoscope-cleaning measures and to determine the correlation between these measures and the extent of Staphylococcus carriage. **DESIGN:** Prospective cross-sectional analysis. **SETTING:** University-affiliated community hospital ED. **PARTICIPANTS:** One hundred fifty health care providers, comprising emergency medicine house staff and attending physicians (n = 50), ED nurses (n = 50), and prehospital personnel working in Kent County, Michigan (n = 50). **INTERVENTIONS:** Providers were asked how often they cleaned their stethoscopes and which cleaning agents were used. We then cultured each stethoscope by pressing the diaphragm on mannitol agar and incubating the culture aerobically for 48 hours. Staphylococcus aureus was identified by means of standard measures. We examined the effects of different cleaning agents on 24 stethoscopes. The numbers of colony-forming units (CFUs) before and after cleaning with alcohol, nonionic detergent, and antiseptic soap were noted.

RESULTS: Overall, 48% of health care providers (74 of 150) cleaned their stethoscopes daily or weekly, 37% monthly, and 7% yearly; and 7% had never cleaned their stethoscopes. No significant differences were found in the hygiene routines of the three groups of providers surveyed. Use of an alcohol swab was the preferred method of cleaning. One hundred thirty-three stethoscopes (89%) grew staphylococci; 25 (19%) yielded S aureus. Mean staphylococcal bacterial counts (+/- SD) were 52 +/- 78 CFUs per stethoscope among physicians, 46 +/- 92 CFUs among emergency medical service personnel, and 13 +/- 21 CFUs from the nursing staff (ANOVA, P = .01). Cleaning the stethoscope diaphragm resulted in immediate reduction in the bacterial count: by 94% with alcohol swabs, 90% with nonionic detergent, and 75% with antiseptic soap. **CONCLUSION:** Our results confirm that stethoscopes used in emergency practice are often contaminated with staphylococci and are therefore a potential vector of infection. This contamination is greatly reduced by frequent cleaning with alcohol or nonionic detergent.