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Display Settings: ☒ AbstractArchives of
Internal Medicine **FULL TEXT**Arch Intern Med. 1996 Jan 8;156(1):82-4.**Contaminated stethoscopes revisited.**Smith MA¹, Mathewson JJ, Ufert IA, Scerpella EG, Ericsson CD.**Author information****Abstract**

BACKGROUND: Because of their universal use by medical professionals, stethoscopes can be a source of nosocomial infections.

OBJECTIVE: To determine the frequency of contamination of stethoscopes with bacteria and fungi.

METHODS: Cultures were obtained from 200 stethoscopes from four area hospitals and outpatient clinics in Houston, Tex. The frequency of stethoscope contamination in different groups of hospital personnel and medical settings was determined. We also measured the frequency of antimicrobial resistance of the staphylococcal strains that were isolated.

RESULTS: One hundred fifty-nine (80%) of the 200 stethoscopes surveyed were contaminated with microorganisms. The majority of organisms that were isolated were gram-positive bacteria, primarily *Staphylococcus* species. Fifty-eight percent of the *Staphylococcus* species that were isolated, including four (17%) of 24 *Staphylococcus aureus* isolates, were resistant to methicillin. Physicians' stethoscopes were contaminated more often than those of other medical personnel groups ($P = .02$). Stethoscopes used only in designated areas were contaminated less frequently than stethoscopes belonging to individual medical personnel ($P = .01$). Although stethoscopes were contaminated in all areas, stethoscopes from the pediatric medical setting were contaminated less frequently than those from other hospital areas ($P = .009$).

CONCLUSIONS: Stethoscope use may be important in the spread of infectious agents, including antimicrobial-resistant strains, and strategies to reduce the contamination of stethoscopes should be developed. We recommend disinfection of stethoscopes or regular use of disposable stethoscope covers.

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Publication Types, MeSH Terms

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A microbiological survey of stethoscopes in Australian teaching hospitals: potential for nosocomial infection?

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Abstract

Our study aimed to investigate how frequently ward-based stethoscopes in high-risk areas are colonised with potential pathogens, and to compare that with the colonisation rates for personal stethoscopes. We performed a survey of microbiological flora on stethoscopes, with single-blinded laboratory analysis, based in immunologically high-risk areas in three tertiary teaching hospitals in Newcastle, Australia. One hundred fifty-five doctors and medical students working in pre-selected areas of each hospital at the time of the survey were selected for inclusion, and participants' stethoscopes and the ward-based stethoscopes used in the same areas were swabbed and cultured. Participants also completed a questionnaire regarding their stethoscope use and cleaning. The stethoscopes were compared on the basis of total colony count and pathogenic organisms, cross-matched against personal characteristics (e.g. doctor or student) and stethoscope use and cleaning habits. We found that there were significantly more organisms isolated from personal stethoscopes (mean colony count (CC) = 50.3, 95% CI 41.7-58.9) than ward-based (mean CC = 29.3, 95% CI 17.9-40.7) ($p < 0.01$). There was no significant relationship between the frequency of stethoscope cleaning and degree of stethoscope contamination, nor was the amount of patients seen per day a significant factor. This study suggests that even regular cleaning of stethoscopes may be insufficient to prevent colonisation with potentially pathogenic organisms, and that patients at high-risk for nosocomial infection should only be examined with stethoscopes that are restricted to single-patient use.

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FULL-TEXT ARTICLEAnn Emerg Med. 1995 Sep;26(3):296-9.

Stethoscopes: a potential vector of infection?

Jones JS¹, Hoerle D, Riekse R.

Author information

Abstract

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.

**Glendale Adventist
Medical Center****Memorandum**

To: All Physicians at GAMC
From: Loucine Kasparian, MT (AMT), MBA, CIC
Infection Control Coordinator
Michele Cosgrove, M.D.
Chairperson Infection Control Committee
Date: 10/7/2008
Subject: Stethoscope Use Update

Due to an increase in the number of hospital-acquired infections in the SICU with multi-drug resistant *Acinetobacter Baumannii*, the Infection Control Department recently implemented the use of patient dedicated stethoscopes in the SICU. The previously clustered patients are now in different areas of the hospital. Continuous precautions are required of every health care provider to prevent spread of infection.

To continue control efforts, the Infection Control Department is requiring every Physician, Physician Assistant, and Nurse Practitioner to sheath their stethoscopes with a glove cover during patient exams, discarding the glove after the exam is complete. Covering the stethoscope with a glove will work as a barrier to transmission of organisms from one patient's skin to another patient's skin. Preventing colonization is the main goal and the first step in preventing hospital acquired infections. This is effective immediately.

Please call the Infection Control Department (818 409-8204) if you have any questions. Thank you in advance for your commitment and participation in the effort to reduce hospital acquired infections.

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