

# Stethoscope Bacterial Contamination And Cleaning Practices Among Health Care Workers In A District General Hospital.

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## Objective:

Multiuse medical equipment like stethoscopes could serve as vehicle of transmission of organisms to patients in healthcare setting. Our aim was to determine whether health care workers (HCW) follow trust policy which says that stethoscopes should be cleaned with alcohol/detergent wipes provided after every patient contact and to establish the extent of bacterial contamination of stethoscopes.

## Method:

Forty-seven HCW of all grades like medical students, physiotherapist, and consultants on different wards in a 720 bedded hospital were asked to complete a questionnaire asking how often they cleaned their stethoscopes and what method was used. The diaphragm of the stethoscopes were then swabbed with a sterile cotton bud, moistened with sterile saline and inoculated onto blood agar plates and incubated at 37°C for 24 hours. Organisms on the plates were identified using standard operating procedures in the microbiology laboratory of the trust.

## Results:

43 doctors, three medical students and one physiotherapist participated in the study. (Table 1)

**Table 1:** Grades of health care workers:

Grades of HCWs	Foundation year doctors	Speciality doctors & SpRs	Consultants	Senior house officers	Medical students	Physiotherapist
Numbers	22	5	6	10	3	1

Two (4%) HCWs cleaned their stethoscope every time it was used, 14(30%) cleaned daily at the start of their shift and 18(38%) weekly. (Table 2)

**Table 2:** Cleaning Practice: How often do you clean your stethoscope?

Cleaning	After every patient contact	Daily	Weekly	Monthly	Yearly	Never
Number of HCWs	2	14	18	9	3	1

20 (43%) HCWs use alcohol based products, 18 (38%) use detergent wipes and 8 (17%) use either of the above two. (Table 3)

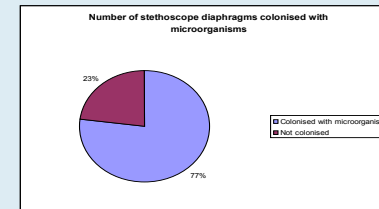
**Table 3:** Method of cleaning: How do you clean your stethoscope?

Cleaning product used	Alcohol based	Detergent based	Either alcohol or detergent based	I don't clean it
Number of HCWs	20	18	8	1

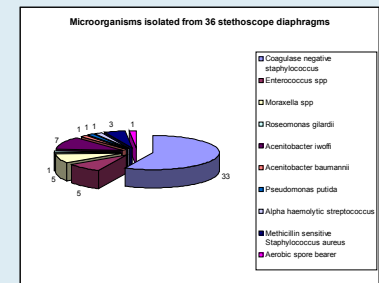
36 (77%) of the stethoscope diaphragms were colonised with bacteria (Figure 1), several potentially pathogenic microorganisms like *Pseudomonas* spp, methicillin susceptible *Staphylococcus aureus* and *Acinetobacter* spp were isolated (Figure 2).

In 31 (66%) of the stethoscopes the colony-forming unit count was 1-50 microorganisms. No methicillin resistant *Staphylococcus aureus* was isolated.

**Figure 1:**



**Figure 2:**



## Conclusion:

Only 16 (34%) of our HCW cleaned their stethoscopes after every patient contact or before the start of their shift daily. 36 (77%) of the stethoscope diaphragms were colonised with microorganisms. This study highlights the potential role of contaminated stethoscopes in transmission of microorganisms between patients. Frequency and thoroughness of stethoscope cleaning will be part of mandatory training for all clinical HCWs in our trust.