Stethoscope Hygiene

Dr Kirsten Herregods
Dr Mike Cooper
Dr Mehevish Khatoon
Dr Sophie Zhang
What was the problem?

Noticed doctors NOT cleaning their stethoscopes in between patients...

EVEN after barrier nursed patients...

Causes obvious issues with infection prevention!
Previous research

Search results

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13 relevant articles
What did we do?

Three pronged approach...

1. OBSERVATIONAL

2. CULTURING STETHOSCOPES

3. QUESTIONNAIRE
OBSERVATIONAL STAGE

Medical students as spies

Areas covered:

– Ward rounds
  • 7 wards
  • Both consultant and registrar led

– Clinics:
  • 4 respiratory
  • 1 pediatric
  • 1 cardiology
ONE registrar cleaned the stethoscope between each patient.
For 3 out of the 6 patients...

Whilst the infection prevention nurse was present...

They did not clean their stethoscopes between any of the other patients.
CULTURING STETHOSCOPE STAGE

Used blood agar plates

30 stethoscopes
• Random
• F1, SHO, registrars, consultants
• ED, AMU, medical and surgical wards

Both bell and diaphragm sampled
Noted the length of time since cleaning stethoscope

Counted the colony forming units
Grossly identified possible pathogens
Some of the stethoscope agar plates...

>200 CFU

Staphylococci - S. Aureus

Bacillus sp.

Some haemolysis

Cleaned 4 – 6 months ago

5 – 20 patients per day

Agar plate # 30
CULTURING STETHOSCOPES STAGE

Some of the stethoscope agar plates...

>200 CFU
Haemolysis ++
Staphylococci

Cleaned 1 week ago
5 – 20 patients per day

Agar plate # 29
CULTURING STETHOSCOPE STAGE

Some of the stethoscope agar plates...

- >200 CFU
- Staphylococci - *S. Aureus*
- Enterococcus (skin flora)
- Some haemolysis

Cleaned 2 weeks ago
5 patients per day
Carried in bag
Agar plate # 21
Some of the stethoscope agar plates...

6 CFU

Few skin organisms

Cleaned 4 days ago - AFTER patient exam

Carried in bag

Agar plate # 26
Cleaning works

Agar plate of a stethoscope AFTER cleaned with clinell wipe
But is there a correlation??

"It's a non-linear pattern with outliers.....but for some reason I'm very happy with the data."
Because a few don’t quite fit the pattern...

138 CFU

Cleaned JUNE 2015

Agar plate # 6
Pearson Correlation Coefficient

R = 0.5093

(moderate positive correlation)

P value = 0.004776

Length of time since cleaning stethoscope

Number of Colony Forming Units (CFU)
76 doctors

• Random
• F1, SHO, registrars, consultants, and specialist nurses
• ED, AMU, medical and surgical wards
QUESTIONNAIRE STAGE

Average Frequency Stethoscope Cleaned

- 12% Between each patient
- 19% 1 - 2 times per day
- 16% Every 2 to 3 days
- 11% Every week
- 22% Every month
- 12% Every couple of months
- 8% When it's visibly dirty

EVEN THOUGH...85% believe that stethoscopes should be cleaned **between each patient**.

> 1/3 of doctors have left them uncleaned for several months to years!
76% of doctors use their own stethoscope when a patient is barrier nursed.
76% of doctors use their own stethoscope when a patient is barrier nursed.

What Percentage of Doctors Cleans their Stethoscope After Use on Barrier Nursed Patients

- **Always**: 55%
- **> 50%**: 22%
- **< 50%**: 12%
- **Never**: 10%
76% of doctors use their own stethoscope when a patient is barrier nursed.

But ONLY 55% of doctors clean their stethoscope after every use on a barrier nursed patient!

97% of doctors think infections CAN be transferred via stethoscopes.
So why the discrepancy?

- Too busy: 30%
- Forget: 21%
- Too lazy: 9%
- Lack of availability of wipes: 29%
- Not part of their routine: 4%
- Lack of evidence: 4%
So why the discrepancy? - Quotes

“I've not been asked to do it in the induction”

“No sign boards to encourage us to clean”

“Consultants stealing stethoscope and using on multiple patients”
So what have I done?

1. Inform staff of my results to help increase knowledge
2. Create sign boards to help remind doctors
3. Make a trust guideline for stethoscope hygiene
4. Add the recommendation to the infection prevention induction presentation
Have you remembered to also clean your stethoscope?

> 1/3 doctors DO NOT clean their stethoscopes for SEVERAL MONTHS or more at a time!
So what should you do?

- Clean your stethoscope between EACH patient.

- Use Clinell wipes (green packs), or even hand gel used to clean your hands.
So please make it part of your routine!
CONCLUSION

• Stethoscopes **DO** carry significant bacteria and are therefore a potential vector for spread of infection
• Cleaning the stethoscope **DOES** get rid of the bacteria
• Clean your stethoscope between each patient
Future research is needed

• The efficacy of different methods of cleaning your stethoscope
Thank you!

Any questions?

Thanks to: Dr Mike Cooper, Dr Mehwish Khatoon, Dr Sophie Zhang, and the medical students