A strategy to reduce MRSA colonization of stethoscopes

Sir,

Previous studies have shown rates of *Staphylococcus aureus* colonization of stethoscopes to be around 16–20%, with methicillin-resistant *S. aureus* (MRSA) making up around 20% of cases. It has also been shown that effective cleaning can reduce bacterial counts by 99%. The frequency of staff actually washing their stethoscopes in surveys is variable; for example, 45% admitted cleaning their stethoscopes annually or never in one study. The real figure could be much lower.

Our hospital has a large elderly care department with seven consultant teams covering four acute elderly care wards. With the elderly being particularly susceptible to infection, any reduction in this risk would be of clinical and economic benefit. Much has been done to assess the levels of bacterial colonization of stethoscopes, but little has been done to assess strategies to reduce this level in the real working environment. We have assessed one such method.

Three sets of samples were obtained at zero (baseline), one and three months following intervention. Samples were obtained by directly pressing the bell and diaphragm of the stethoscope into a blood agar plate and culturing for 48 h. The samples were obtained from the stethoscopes of elderly care doctors.

Table I  Details of clinical diagnoses, methicillin susceptibility, presence of the ica operon and differential regulation of biofilm production in *Staphylococcus aureus* isolates from the intensive care units

<table>
<thead>
<tr>
<th>Total</th>
<th>Clinical diagnosis</th>
<th>ica Positive</th>
<th>Biofilm productiona</th>
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<tbody>
<tr>
<td></td>
<td>DRI</td>
<td>BSI</td>
<td></td>
</tr>
<tr>
<td>MSSA 15</td>
<td>7</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>MRSA 17</td>
<td>13</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Total 32</td>
<td>20</td>
<td>12</td>
<td>31</td>
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</tbody>
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MSSA, methicillin-susceptible *S. aureus*; MRSA, methicillin-resistant *S. aureus*; DRI, device-related infection; BSI, bloodstream infection. *Statistically significant result (P<0.05) between MRSA and MSSA isolates.*

a Biofilm formation was measured after 24 h growth at 37 °C in BHI broth, and BHI supplemented with 1% glucose and 4% NaCl.

References


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(all grades) who arrived at the morning handover meeting, without prior notice. Results of bacterial counts were obtained by manually counting colonies.

Intervention took the form of a poster campaign, raised awareness of stethoscope cleanliness (through announcements at departmental meetings) and placing alcohol-based wipes in the ward offices and on all notes trolleys. Posters were displayed in non-public places, such as offices, treatment rooms and coffee rooms. The intervention began one week after collecting the baseline samples. Once the posters and alcohol wipes were in place, no further active intervention was undertaken (except refilling the wipes when they ran out).

The mean total colony count per stethoscope fell from 70 at baseline to 59 and 41 at one and three months, respectively (Figure 1). This equates to a 41% reduction in total bacterial numbers after three months. Mean numbers of S. aureus colonies fell from 0.5 colonies per stethoscope to 0.25 at one month, but rose to 0.4 per stethoscope at three months. MRSA colonies fell from 0.42 per stethoscope to 0.08 per stethoscope at one month (83% reduction). There were no MRSA colonies detected at three months (100% reduction).

We have shown a reduction in the total number of bacterial colonies amongst our stethoscopes by the use of alcohol wipes and a poster campaign that appears to be sustainable over a three-month period. More significant, perhaps, is the reduced number of MRSA colonies. With an ever-increasing awareness, by the public, of MRSA and the problems it causes, it seems logical to look at all possible factors that could lead to its propagation. This small study has shown that simple interventions work and could lead to system changes that help counter the cross-infection risks.

References


Is your phone bugged? The incidence of bacteria known to cause nosocomial infection on healthcare workers’ mobile phones

Sir,

More than half the British population owns a mobile phone, and increasing technological applications have led to increased use of these devices to provide better communication between healthcare workers (HCWs) and patients. Innovations in mobile communication have led to better patient control of diabetes and asthma, and increased uptake of vaccinations by travellers reminded by SMS (short message service). The increased use of mobile phones is seen against a background rise in nosocomial infection rates. There were 116 deaths mentioning methicillin-resistant Staphylococcus aureus (MRSA) infection as a cause of death in the Northern Ireland region alone in 1997-2003. This has increased