

Eradication of persistent methicillin-resistant *Staphylococcus aureus* (MRSA) using Hydrogen Peroxide Vapour (HPV) decontamination.

Lewisham Hospital NHS Trust.

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Ten patients were infected or colonised with MRSA on a 20-bed Nightingale design surgical ward and it appeared that cross transmission had occurred. During our outbreak investigation, we conducted environmental screening and found that 35.7% of 28 surfaces and 27.7% of 18 air samples were contaminated with MRSA. Based on these results and following consultation with the HPA, the ward was emptied and deep cleaned (a three-day process involving detergent cleaning followed by 1000ppm sodium hypochlorite and steam cleaning). However, the deep cleaning failed to eradicate MRSA; 16% of 65 surfaces remained contaminated including hand-touch sites such as telephones and Patient Line hand-held controls. The MRSA remaining on surfaces was considered to be a risk to patients so the ward was decontaminated using Hydrogen Peroxide Vapour (HPV). The process took 12 hours, was managed by BIOQUELL personnel and the ward was available for re-occupation immediately after the process. No patients acquired MRSA in the months following re-occupation of the ward. This project required close collaboration between the infection control team, ward staff, hospital managers, engineering and BIOQUELL. Decontamination using HPV provides a rapid and cost-effective method for the eradication of environmental MRSA, which provides a viable option for outbreak control in the future. Furthermore, HPV decontamination has been used across our Trust since this outbreak as part of a ward renovation project.



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