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weeks at room temperature and 4 °C. Furthermore, swirling the swabs in the broth for a few seconds was easier, quicker and gave comparable results to the current practice of breaking the swabs in broth.

These features of SMB enabled us to introduce the use of SMB in the hospital. The nursing staff swirl screening swabs from various sites into a single SMB that is labelled with the patient's identification details. This precludes the need to label several swabs and saves time. The broths are incubated for 18-24 h in the laboratory and the results of negative tests are available within 24 h. MRSA-positive specimens take up to 48 h because SMB has to be subcultured and the presence of MRSA has to be confirmed because of the relatively low specificity of SMB.

The user survey showed that the majority of nurses preferred SMB to sending swabs to the laboratory.

SMB was also considerably cheaper (41 pence) than salt-broth-based screening (£1.68) for MRSA-negative screens. This was mainly due to saved labour costs.

The principal limitation of SMB is that it can only detect those strains of MRSA that are resistant to ciprofloxacin.

We conclude that swirling of screening swabs directly into SMB is a sensitive, cost-effective and convenient method to screen for ciprofloxacin-resistant MRSA in hospitals.

References

1. Spicer WJ. Three strategies in the control of staphylococci including methicillin-resistant *Staphylococcus aureus*. *J Hosp Infect* 1984;5:45-49.
2. Ayliffe GA, Buckles A, Casewell MW, *et al*. Revised guidelines for control of MRSA: applying appropriately-based recommendations. *J Hosp Infect* 1999;43:315-316.
3. Muto CA, Jernigan JA, Ostrowsky BE, *et al*. SHEA guideline for preventing nosocomial transmission of multidrug-resistant strains of *Staphylococcus aureus* and enterococcus. *Infect Control Hosp Epidemiol* 2003;24:362-386.
4. Rubinovitch B, Pittet D. Screening for methicillin-resistant *Staphylococcus aureus* in the endemic hospital: what have we learned? *J Hosp Infect* 2001;47:9-18.
5. Teare EL, Barrett SP. Is it time to stop searching for MRSA? Stop the ritual of tracing colonised people *BMJ* 1997;314:665-666.
6. Gurran C, Holliday MG, Perry JD, Ford M, Morgan S, Orr KE. A novel selective medium for the detection of methicillin-resistant *Staphylococcus aureus* enabling result reporting in under 24 h. *J Hosp Infect* 2002;52:148-151.

S. Kelly, R. Hardwick, J. Wong, G. Gopal Rao*
 Department of Microbiology and Infection Control,
 University Hospital Lewisham, London SE13 6LH,
 UK
 E-mail address: gopal.rao@uhl.nhs.uk

*Corresponding author. Tel.: +44-20-8333-3262; fax: +44-208-690-8891

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doi:10.1016/j.jhin.2004.07.012

The effectiveness of training and taste testing when using respirator masks

Sir,

Recent concerns about severe acute respiratory syndrome (SARS), influenza and multidrug-resistant tuberculosis have highlighted the need for the use of respirator masks of adequate design and construction. However, it is equally important to ensure that healthcare personnel are using these masks correctly. In November 2003, 12 members of staff on our respiratory ward were trained on the correct method for putting on respirator masks (Tecnol fluid N95 particulate filter, Kimberly Clark); they were asked to cascade this training on to remaining staff on the ward. In February 2004, with help from the suppliers, we returned to test the adequacy of mask fitting by staff. This involved staff putting on a mask using their normal method and then wearing a plastic hood into which a saccharin solution was aerosolized. They were then asked to read a paragraph of text and any tasting of saccharin during this time was regarded as a mask-fit failure, demonstrating to staff that this left them exposed to infectious agents. The results are shown in Table 1. The majority of staff who had not been trained failed the test. Although there was a greater degree of success amongst those formally trained, they still failed to comply with the manufacturer's instructions in all aspects, which suggests that their future success may be haphazard.

Using the test hoods, we also looked at staff in the accident and emergency department and the intensive care unit who had not received any formal training in mask fitting but who were expected to follow the manufacturer's instructions. Only three out of 44 clinical staff passed the fit test; 30/33 nurses and all medical staff, including nine consultants, failed. Subsequently, the correct method of mask use was demonstrated followed by testing; the effectiveness of the mask was demonstrated for every individual using the hood and all passed the fit test.

Table 1 Mask fit results on a respiratory ward

Staff member	Previously trained	Ties	Nose	Pointed down	Pass/fail
Nurse	✓	✓	✓	✓	Pass
Nurse	×	✓	×	×	Fail
Nurse	✓	×	✓	✓	Pass
Doctor	×	×	✓	×	Fail
Doctor	✓	✓	✓	×	Pass
Doctor	×	✓	✓	×	Fail
Physiotherapist	×	×	✓	×	Pass
Physiotherapist	×	×	✓	×	Fail
Student nurse	×	×	✓	✓	Fail
Student nurse	✓	×	✓	✓	Fail
Student nurse	×	×	✓	×	Fail

This experience has highlighted several areas. In particular, it re-emphasizes that just because a piece of equipment is technically sufficient for purpose does not mean that it will provide the required protection when called upon in practice. It also suggests that training may be of limited value if the relevance to the individual is not clearly demonstrated. We have changed our practice and now recommend that staff working in high-risk areas receive training on mask fitting at induction and pass a fit test. We also recommend that staff in these areas are tested annually. We have found that these tests not only give us assurance regarding performance, but they have given every member of staff real confidence in these relatively simple masks and brought home to them what failure might represent.

Acknowledgements

I would like to thank Mr Kevin Reece, Universal Hospital Supplies, for all the valuable discussions and his help with mask testing.

L. Kelly^{a,*}, K. Clark^b

^aDepartment of Infection Control,
South Devon Healthcare Trust, Level 4,
Torbay Hospital Lawes Bridge,
Torquay, Devon TQ2 7AA, UK

^b1 Tower View, Kings Hill,
West Malling, Kent, ME19 4HA, UK
E-mail address: lynn.kelly@nhs.net

*Tel.: +44-1803-655758; fax: +44-1803-654629

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doi:10.1016/j.jhin.2004.07.009

Impact of mandatory *Clostridium difficile* surveillance on diagnostic services

Sir,

Clostridium-difficile-associated diarrhoea (CDAD) recently became subject to mandatory surveillance in England.¹ This initiative was supported by standardization of diagnostic procedures that had previously varied widely and rendered figures from different laboratories difficult to compare. Briefly, since January 2004, laboratories have been asked to test all diarrhoeal specimens from patients aged 65 years and over for *C. difficile* toxins (CDT) A and B, and not to test non-diarrhoeal specimens. The scheme ignores results from repeat specimens submitted within four weeks of an included positive assay, and does not apply to patients younger than 65 years of age.² Laboratories are at liberty to formulate their own testing algorithms for these patients.

This laboratory's previous strategy was to perform CDT testing only (and always) on request, in effect relying upon clinicians' judgment to optimize the predictive value of the investigation. For ourselves, as for most others, the new standards have entailed testing specimens that we would not previously have tested while rejecting specimens that we would previously have tested. This communication reports the impact of the changes on laboratory workload and diagnosis of CDAD in Sunderland.

The first 500 requests of 2004 were analysed. In previous years, these requests would have generated 500 tests. Under the new standards, however, 28 (5.2%) of the specimens were judged not to be diarrhoeal and were therefore not processed, while in the same period, 227 unrequested tests were