

Micro News

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1. HPV effective for the deactivation of *Mycobacterium tuberculosis*

A collaborative study between the Mayo Clinic in the USA and BIOQUELL published recently in the *Journal of Clinical Microbiology* demonstrates the efficacy of HPV for the deactivation of *Mycobacterium tuberculosis* (Hall et al. 2007). A relatively low inoculum was used to represent a spillage post manual disinfection to reflect local procedures. The study showed that the *M. tuberculosis* dried onto metal discs was deactivated within 30 minutes HPV exposure in time-course studies in a biological safety cabinet (BSC) and within the shortest cycle tested (90 minutes) when distributed throughout a laboratory room, including inside a drawer left ajar. The study concludes '*HPV provides an alternative to traditional methods, such as formaldehyde fumigation, for the decontamination of laboratories used to handle M. tuberculosis. HPV could also be applied in the health care setting for the terminal decontamination of isolation facilities used to care for patients with tuberculosis.*'

2. MRSA contaminated ambulances

A US study identified MRSA from surfaces in 10 (47.6%) of 21 ambulances sampled (Roline et al. 2007). In all, 13 (12.4%) of 105 sites were contaminated, including several hand rails and a steering wheel. However, the microbiological methods used were questionable, using only a selective broth without confirmatory culture and testing. Furthermore, no antimicrobial susceptibility testing or genotyping was conducted so we are not able to determine whether these were confirmed MRSA and, if so, whether they were healthcare-associated or community-associated strains. However, these surprising data contrast previous findings in the UK (Nigam and Cutter 2003; Simmons 2004), open the door for more detailed studies and provide preliminary data that contamination of emergency vehicles may be contributing to prehospital transmission of MRSA.

3. Environmental contamination with CA-MRSA in a community-based outbreak

An outbreak of USA 300 CA-MRSA affected 24 people in a religious community in the USA, with a high attack rate of 14% (Coronado et al. 2007). Sauna use and prior antimicrobial use were significantly associated with infection. The outbreak strain was cultured from a computer keyboard and the sauna bench, representing 2 (4%) of the 47 sites sampled. The outbreak was controlled through improved personal and environmental hygiene.

4. Does the built environment influence the incidence of nosocomial infection?

A Brazilian study published this month investigated the incidence of nosocomial infection during renovation of their 10-bed neonatal intensive care unit (NICU) (Von Dolinger de et al. 2007). Infection rates were compared in 12 months before the move, in the 9 months while the NICU was moved to a temporary location and in the first 18 months back in the renovated NICU. Rates of infection increased significantly during the period in the temporary NICU when admissions per month

was highest and the nurse:admission and sink:cot ratios were lowest. This provides evidence that the built environment does influence significantly the incidence of nosocomial infection, although the significantly increased admissions per month alone could have explained the difference.

5. The ORION statement

A useful new tool for planning and reporting infection control studies has been published this month in the *Lancet Infectious Diseases* (Stone et al. 2007). The Outbreak Reports and Intervention Studies Of Nosocomial infection (ORION) statement is a tool to improve the quality of non-randomised-controlled trials, and is a parallel for the CONSORT guidelines for randomised controlled trials. ORION offers a 22 point check-list and recommends a standardised data summary table. For example, one of the check-points is economic outcomes, including consideration of opportunity costs. The statement provides a framework for higher quality infection control studies and will facilitate more meaningful comparison of related studies.

6. Circumcision as a risk factor for CA-MRSA

A case-control study of two outbreaks involving a total of 11 babies on a well-baby unit in Atlanta, Georgia, has identified circumcision as a risk factor for the development of CA-MRSA skin and soft tissue infection (Nguyen et al. 2007). All 11 boys developed groin pustules caused by USA300-0114, which were linked to uncovered circumcision equipment and poor hand hygiene. Improvements in the management of circumcision equipment and hand hygiene terminated the outbreaks.

7. Closure of medical units during outbreaks

Closing of all or part of medical units during outbreak is a common component of outbreak responses. A study investigated factors influencing the decision to close a unit to control an outbreak (Hansen et al. 2007). The study applied a novel method to identify the outbreaks using a useful database of healthcare-associated outbreaks developed by the authors found at www.outbreak-database.com rather than MEDLINE. The study found that outbreaks of the readily transmitted viruses Norovirus and Influenza/Parainfluenza were most likely to result in ward closures. *Acinetobacter* spp. were also significantly associated with ward closure, and the authors attribute this to the environmental longevity of this organism. Certain other variables were also associated with ward closure, including certain medical departments, outbreak sources, routes of transmission and types of infection. However, only 135 of the 194 outbreaks that involved ward closure provided detailed information on the degree of closure (i.e. 'closure' of the ward to admission, 'closure' of certain rooms or 'closure' of the entire ward). Nevertheless, these data provide insight into the factors influencing ward closure in outbreak settings.

8. And finally...beware the barber!

An interesting letter published this month from Belfast, Northern Ireland, reviews the handful of "barber-acquired-infections" reported in the literature, including cases of *Mycobacterium tuberculosis* and Hepatitis B (Moore and Miller 2007). The short letter also manages to include reference to the infamous 'barber-surgeons' of the middle-ages, who undertook the practice of 'blood-letting', and quotes Ezekiel 5

verse 1 from the Bible (*'And thou, son of man, take thee a sharp knife, take thee a barber's razor, and cause it to pass upon thine head and upon thy beard...'*) in discussion of the history of hairdressing!

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