

Micro News

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1. Rapid admission screening and MRSA acquisition rates

A Department of Health funded study was conducted at Guy's and St. Thomas' Hospital in London to assess the impact of rapid PCR screening (BD GeneOhm) (Jeyaratnam et al. 2008). A cluster randomised trial including a crossover was initiated on 10 wards (6 surgical, 2 oncology, 2 care of the elderly). The wards were randomised to standard culture (control) or PCR (intervention) for admission screening, then there was a wash out period followed by a crossover. The main finding was no difference in MRSA acquisition (either colonisation or infection). However, significantly less inappropriate isolation days on the intervention arms. Rapid screening PCR may prove cost beneficial through reduction in the utilisation of isolation resources but formal cost analyses are required to investigate this. It seems from this study that the majority of MRSA transmission occurs later in the patients stay such that the 24 hour difference between standard culture and PCR in the time to report the positive culture does not have a significant impact on transmission.

2. The Pandora's box of staff MRSA colonisation: too scary to open?

Most experts advocate screening staff for MRSA colonisation only during outbreaks. However, routine surveillance for MRSA colonisation is common in some countries, such as the Netherlands. A *Lancet Infectious Diseases* review paper discusses whether healthcare workers are the source, a vector or a victim of MRSA (Albrich and Harbarth 2008)! Approximately 4-6% of healthcare workers are colonised with MRSA, with prevalence of carriage increased during outbreaks. The article discusses the issues surrounding when to screen healthcare workers, advantages and disadvantages of screening approaches, when and how to decolonise and the new threat to healthcare workers posed by community-associated MRSA.

3. Wash, rinse and dry!

A short letter in the *Journal of Hospital Infection* discusses some of the challenges of cleaning and advocates a "back-to-basics" approach (Price and Ayliffe 2008). Hospital cleaning should consist of detergent cleaning, thorough rinsing, sometime disinfection and appropriate drying. The letter points out some of the pitfalls of a failed cleaning process, including possible toxicity of disinfectant residues, development of resistance and consequent "collateral" antibiotic resistance, possible promotion of *S. aureus* environmental contamination through salt residues and increased *C. difficile* toxin production in response to sub-lethal doses of some disinfectants.

4. Contaminated beds

Beds contain several high-touch surfaces in the near-patient environment, which, if contaminated, could be a risk for cross-transmission. A recent review investigated the evidence that contaminated beds can contribute to

healthcare-associated infection (Creamer and Humphreys 2008). The bedrail has often been sampled during outbreak and outbreaks strains of MRSA, *Acinetobacter* and other microbes have been cultured from bed frames – summarised in a useful chart in this review. Perhaps the finding of MRSA contamination on beds of patients who are not MRSA positive in a London hospital is rather more sinister (French et al. 2004). The review paper raises the important question of whether current disinfection regimens for beds are adequate.

5. **Outbreak of *Burkholderia* from contaminated chlorhexidine**

Chlorhexidine is an important and widely used disinfectant (Milstone et al. 2008). A Spanish hospital reports an outbreak of *Burkholderia cepacia* bacteraemia traced back to contaminated 2.5% chlorhexidine solution used for skin antisepsis prior to catheter insertion (Romero-Gomez et al. 2008). *Burkholderia* and other Gram-negative pathogens can survive and even grow in disinfectant solutions, and this outbreak reinforces the need to the use of freshly prepared disinfectant dilutes with uncontaminated water!

6. **Environmental and HCW hand contamination during an outbreak of *Acinetobacter***

Contamination of 12 (28.6%) of 42 HCW hands and 29 (41.4%) of 70 environmental surfaces was identified during an outbreak of imipenem-resistant *Acinetobacter* in a Greek intensive care unit (Markogiannakis et al. 2008). Fourteen of the 36 patients admitted to the unit during the outbreak period had a culture positive for imipenem-resistant *Acinetobacter* an attack rate of 38.9%. Most patients were infected and the outbreak strain contributed to the death of three patients. Control measures of closing and disinfecting the unit with detergent plus disinfection of respiratory equipment and improved hand hygiene halted the outbreak. However, it is not possible to determine which intervention was most important in bringing the outbreak under control.

7. ***In vitro* efficacy of hydrogen peroxide vapour (HPV) against dimorphic fungi**

A collaborative study between the Mayo Clinic and BIOQUELL investigating the efficacy of HPV against the dimorphic fungi has recently been published in *Medical Mycology* (Hall et al. 2008). *Histoplasma capsulatum*, *Blastomyces dermatitidis* and *Coccidioides immitis* were dried onto stainless steel discs at an inoculum chosen to represent a post-spillage concentration of contamination and exposed to HPV inside a biological safety cabinet. All of the dimorphic fungi were killed after 30 minutes exposure to HPV. This study will be interesting to those who culture these or related fungi!

8. **And finally...Computer says “wash your hands”.**

Getting people to wash their hands every time is difficult. One US hospital trialled an audible message to remind healthcare workers to wash their hands on entry to patient rooms (Venkatesh et al. 2008). The initiative appeared to be successful with significant increases in hand hygiene compliance from 36.3% in the baseline to 70.1% in the intervention phase!

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