

# Journal watch

*Journal Watch presents a brief description of articles recently published in other journals and thought to be of relevance or interest to the AIC readership. Readers are encouraged to refer to the articles for further information.*

## ***Staphylococcus aureus* bacteraemia**

von Eiff, Machka, Stammer and Peters examine whether nasal carriage of *Staphylococcus aureus* is linked with the presence or development of *S. aureus* bacteraemia. Two studies highlighted in this article demonstrate genetic fingerprinting links between *S. aureus* present in the blood stream and isolates obtained from the anterior nares of the infected patients. One study obtained nose swabs from 219 patients with identified *S. aureus* bacteraemia. In this case, genotyping demonstrated that nasal and blood isolates were identical in 82.2 per cent of patients. The other study, conducted prospectively over 5 years, involved the collection of nasal swabs from 1278 patients who were then followed to see if they developed *S. aureus* bacteraemia. Fourteen of these patients subsequently developed the infection and in 12 of the 14 cases (86 per cent), the nasal and blood isolates were clonally identical. The results support elimination of nasal carriage of *S. aureus*, as bacteraemia appears to be linked with the endogenous presence of this organism.

*N Engl J Med* 2001; 344(1).

## **Contamination of the operative field**

Mills, Holland and Hardy describe the effect of surgeons sweating during surgery on the risk of wound infection. The study employed 10 orthopaedic surgeons to perform mock joint operations which were first conducted while the surgeons were not sweating and then repeated while they were sweating. Settle plates placed in the operative field were used to measure the extent of operative field contamination in both instances. The results demonstrated higher numbers of colony forming units (consisting of normal skin flora) present in the operative field during the sweating phase than in the non-sweating phase ( $p < 0.05$ ). The authors conclude that surgeons should be aware that sweating into the operative field poses a risk to the patient and measures to minimise sweating during surgery should be taken, particularly in the case of joint replacements.

*Aust NZ J Surg* 70(12):837-39

## **Evidence-based guidelines for infection control practice**

Pratt *et al.* have published their work, *The epic project: developing national evidence-based guidelines for preventing healthcare associated infections*, comprising the results of a systematic review of the infection control literature. Included are; a discussion of the basic principles for preventing nosocomial infection, guidelines for the prevention of urethral catheter infections in acute care settings and for preventing central venous catheter infections. Clinical governance issues are discussed in relation to the effective delivery of an infection control program. The document can also be obtained at <[www.gov.uk/hai/epic.htm](http://www.gov.uk/hai/epic.htm)>.

*J Hosp Infect* 2001; 47(Issue A).

## **VRE persistence and anti-anaerobic antibiotics**

Donskey *et al.* describe the effect of exposure to antibiotics with anti-anaerobic activity on the density of stool colonisation with VRE in this prospective study involving 51 VRE-colonised patients. The density (number of enterococci per gram of stool) of VRE in the stool samples was examined during and after treatment with antibiotics. One group of patients were given anti-anaerobic agents and the other group received antimicrobials with little anti-anaerobic effect. The results showed that the group receiving anti-anaerobics demonstrated persistent, high-density VRE colonisation of stool which decreased when these drugs were discontinued. In comparison, the group who received the other regimen showed a reduction in the density of VRE in stool. There was a significant ( $p = 0.006$ ) difference in density between the groups. The conclusion is drawn that antibiotics with anti-anaerobic activity promote VRE colonisation and limiting their use may reduce the risk of cross-transmission of VRE.

*New Engl J Med* 2000; 343:1925-32.

## **Occupational transmission of extra-pulmonary *Mycobacterium tuberculosis***

A retrospective cohort study by D'Agata, Wise, Stewart and Lefkowitz was conducted to evaluate whether transmission of

extrapulmonary *Mycobacterium tuberculosis* occurred from a patient to health care workers. The patient had undergone drainage of a prostatic abscess and required dressing changes in hospital. No special precautions were taken as *M. tuberculosis* was identified in the abscess post mortem. Following this discovery, Tuberculin Skin Testing (TST) was performed on the 128 hospital staff exposed to the patient. The aim of the study was to determine the risk factors for a positive TST and to evaluate the extent of cross-transmission. Twelve of 95 previously non-reactive staff were newly positive. TST conversions occurred only in staff members exposed intra or post-operatively and during autopsy. Irrigation or packing of the surgical site proved to be the only independent risk factor associated with TST conversion (OR 9, 95% CI 1.2-67,  $p=0.03$ ). The authors conclude that nosocomial transmission is possible as a result of manipulating extrapulmonary tissues infected with *M. tuberculosis*.

*Infect Control Hosp Epidemiol* 2001; 22:10-12.

## Laboratory methods for detecting VRE

Reisner *et al.* compare three different laboratory techniques for detecting VRE in samples collected during an outbreak. Eighty eight perianal swabs were collected from 63 patients and 500 environmental samples were gathered. Three separate sterile swabs of each sample site were obtained to compare the laboratory methods. One swab was placed in selective broth medium, and the other two used to inoculate agar plates, containing *Campylobacter* and Enterococcosel agar respectively. The results demonstrate that enrichment broth is more helpful in recovering VRE from the environment than solid media, whereas solid media were as effective in recovering VRE from perianal swabs as the broth. These findings have implications for VRE outbreak investigations. *Infect Control Hosp Epidemiol* 2000; 21(12).

## Airborne precautions

An article by Craft, Jones, Blanchet and Hopfer examines the effect of reducing the number of negative acid-fast bacillus (AFB) sputum smears required to cease airborne precautions in hospital patients being treated for pulmonary tuberculosis. Hospital policy dictated that three negative AFB sputum smears collected 24 hours apart were required before a patient could be classified as non-infectious and precautions ceased. This study aimed to determine the value, in relation to reducing billable charges to the patient for airborne precautions and the risk of transmission, of reducing the number of negative smears required to indicate infectivity. A retrospective review of laboratory data on all patients who had been sputum-positive for *M. tuberculosis* ( $n=42$ ) over a 4 year period was conducted to determine the number of people who were still submitting positive smears by the third specimen. The findings, confirming results of another study, show no risk associated with changing the requirements for ceasing precautions following two negative AFB smears. The authors conclude that this approach yields potential cost-savings and that clinical judgment, rather than the number of

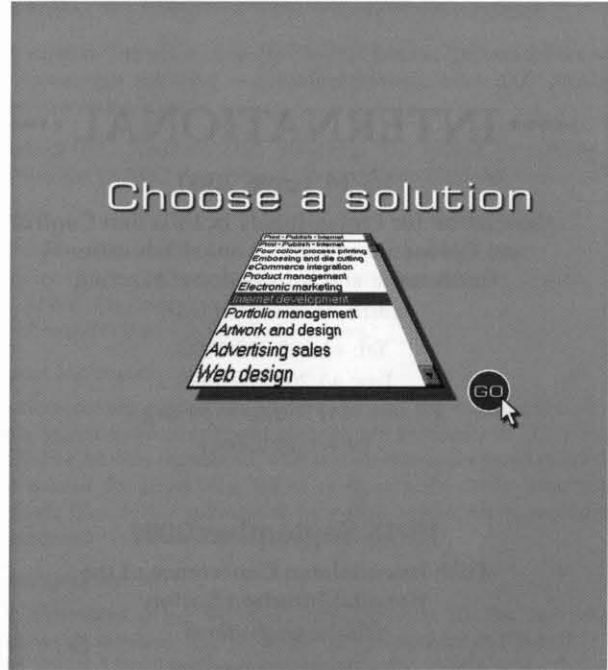
negative smear results, should determine when airborne isolation can be ceased.

*J Clin Microbiol* 38(11):4285-4287.

## Hospital acquired infection in the United Kingdom

A recent article by Mayor highlights the findings of a report estimating the number of hospital acquired infections (HAI) in England each year and the subsequent cost to the National Health Service. The report, undertaken by the National Audit Office and published by the House of Commons Public Accounts Committee, notes that there are approximately 100,000 cases of HAI in England annually, costing in the area of £1 billion per year. The report makes recommendations to strategically improve the management of infection control programs, ensure effective surveillance and broaden the effectiveness of practices and procedures in relation to infection control. Two main issues highlighted in the article are the need to improve surveillance systems for monitoring HAI, which have been hampered by a lack of standard definitions, and the need to shift the emphasis from infection prevention being the domain of specialists in infection control to being 'everybody's business'. The full report, *The management and control of hospital acquired infection in acute NHS trusts in England* is available at <[www.publications.parliament.uk/pa/cm/cmpublicacc.htm](http://www.publications.parliament.uk/pa/cm/cmpublicacc.htm)>.

*BMJ* 2000; 321:1370.



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