

An MRSA screening policy for a small New South Wales hospital

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Most nosocomial infections are caused by opportunistic bacteria, which are part of the normal microbiota of the human body. Particularly troublesome to the compromised host are the antibiotic-resistant strains of Gram-positive *Staphylococcus aureus* and Gram-negative bacteria such as *Escherichia coli* and *Pseudomonas aeruginosa*. Methicillin-resistant *S. aureus* (MRSA) in particular has been the subject of many policies and protocols devised to control its spread in hospitals and nursing homes. "High morbidity and mortality [are] associated with hospital acquired MRSA in the compromised host. The major route of spread within institutions is thought to be via the hands of staff, usually associated with inadequate handwashing."¹

"Staff with exfoliative skin conditions are at increased risk of both acquiring and transmitting infection. Staff carriers, including asymptomatic nasal carriers, who maintain high standards of hygiene, implement standard precautions and who do not have an exfoliative skin condition or overt sepsis (eg paronychia), are unlikely to transmit significant numbers of staphylococci."² Some problems, however, do arise for smaller hospitals in this situation. It is recommended that staff with predisposing conditions be rostered away from high-risk areas, but this may well be impossible with small numbers of staff. Nor can small hospitals weather an outbreak of MRSA without incurring financial difficulty. While staff are educated in, and constantly reminded of, standard precautions and the essential need for good handwashing techniques, they may have to be trusted to comply. While unlikely to transmit colonies of bacteria to compromised patients, they may still do so.

In the interests of the health and safety of both patients and staff, many private hospitals have instituted screening policies for MRSA with respect to incoming patients from other hospitals and nursing homes. Patients with a history of MRSA are also flagged. Are these policies effective in controlling the spread of MRSA? And what of other resistant

organisms, such as vancomycin-resistant enterococci (VRE)? Are standard precautions sufficient to prevent transmission of these bacteria?

Both enterococci and staphylococci are part of the normal body flora and – like many other bacteria – opportunistic, multiplying in the compromised host. One of the main catchment areas for the medical wards of hospitals is local nursing homes. A recent study of the prevalence of MRSA in South Australian nursing homes indicated that 20 per cent of wound swabs taken grew MRSA. "Most MRSA isolates (86 per cent) were cultured from the anterior nares."³ A study of patients admitted from 16 local nursing homes to a large hospital in NSW indicated that the incidence of MRSA carriage and/or infection in this group was lower than expected.⁴ Although the results conflict, both reports demonstrate a high percentage of MRSA nasal carriers.

Both *S. aureus* and enterococci have produced antibiotic-resistant strains. MRSA has been present since the early 1980s and VRE have now emerged. Also reported has been a case of vancomycin-intermediate-resistant *S. aureus*, with these bacteria usually spread by direct contact.

Current thinking is that standard precautions, if properly maintained, are all that are necessary to prevent the spread of MRSA. However, strict isolation precautions are recommended for patients with VRE colonisation.⁵ "Capable of living for weeks on surfaces, VRE [have] been detected on patient gowns, bed linen and handrails."⁶ MRSA, like VRE, has been recovered from contaminated surfaces, including carpet, and can live on the hands for up to 3 hours. Good handwashing before and after caring for any patient is the most effective way of preventing the spread of both MRSA and VRE. If wearing gloves, handwashing must be performed upon their removal. An antiseptic soap solution is recommended for use by staff, as these bacteria can survive a plain soap handwash and/or an inadequate technique.

Continuing education does not ensure 100 per cent compliance; nor can overseeing of precautions be ongoing. Staff professionalism must be relied on but cannot be guaranteed.

It does seem reasonable, if facilities are available, to provide a two-tiered approach to the management of patients with VRE- or MRSA-infected wounds. These patients should be nursed with standard precautions plus additional contact precautions – in a single room, if possible. The spread of MRSA from colonised patients only should be adequately controlled utilising standard precautions only.

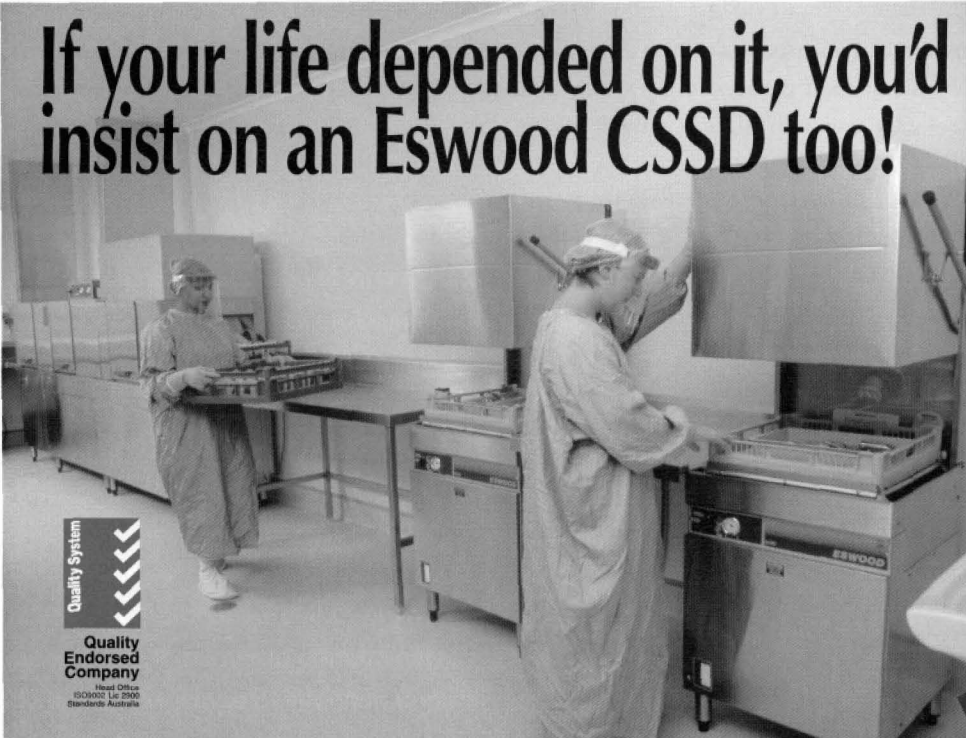
In order to carry out this program and through it protect patients at risk – such as the immunosuppressed, the aged, those with underlying medical conditions and people undergoing major surgery – it is necessary to institute screening of some incoming patients for MRSA. No evidence is available to prove that colonisation with MRSA, coupled with a high standard of nursing care and stringent handwashing, is hazardous to others. The belief that nursing homes are a principal source of MRSA in hospitals is still being investigated, while the cost of routine laboratory testing for MRSA of all patients transferring between hospitals and nursing homes must also be considered. Therefore, it is reasonable to

suggest that screening of all patients admitted from other hospitals and nursing homes be discontinued. Instead, the following sites only on incoming patients should be screened: open wounds, ulcers, unhealed skin lesions and catheter sites. This would enable the two-tiered precautions system to be implemented, thereby ensuring appropriate protection of all patients at risk. These minimum screening precautions are necessary if small hospitals are to function safely and cost-effectively.


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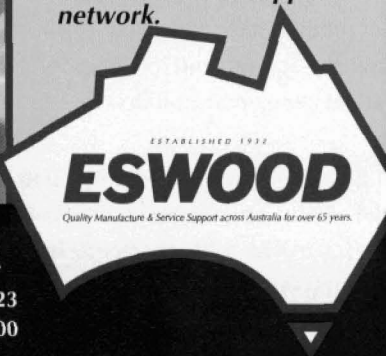
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