



## MRSA

### KEY POINTS

Screen for MRSA before major surgery and on admission to ICU

If positive, apply eradication protocol for 3-5 days pre-operatively

Isolate patients with infected wounds and respiratory tract colonisation

Use diligent hand hygiene (see policy for Hand Hygiene) to prevent the spread of MRSA

Use Staphylococcal Decontamination Protocol for staff and patients without wounds

(see [www.infectioncontrolservices.co.uk/forms.htm](http://www.infectioncontrolservices.co.uk/forms.htm))

### INTRODUCTION

*Staphylococcus aureus* colonises the nose, and sometimes the axillae, hair, throat and perineum. Commonly it causes wound infection, superficial or deep, sometimes with blood stream spread (bacteraemia). Occasionally patients may die from overwhelming sepsis due to *Staphylococcus aureus*. The most likely mode of spread is by indirect contact via a staff member acting as a transient carrier of *Staphylococcus aureus* on the hands, transferring the organism from one patient to another. Many more patients and staff are colonised with *Staphylococcus aureus* than have overt infections. Hand carriage is temporary. Staff transmit the organism to susceptible patients without being aware that they are carriers. Therefore, meticulous hand hygiene before patient contact is essential to prevent transmission.

Hospital-acquired infection leads to a prolonged stay in hospital. In addition, *Staphylococcus aureus* strains which are resistant to methicillin (MRSA) are difficult to treat. If resistant to methicillin, these strains are also resistant to flucloxacillin and all  $\beta$ -lactam antibiotics. Usually they are also resistant to other valuable antibiotics. Furthermore, some epidemic strains of MRSA appear to spread more easily from patient to patient than other strains. As time passes, it is expected that more and more people in the community will be colonised with MRSA than with methicillin sensitive staphylococci.

A patient with MRSA will be identified in the laboratory because a specimen (often a wound swab) has been sent from the ward. The ward and medical staff will be notified of the results by the Infection Control Team.

Screening for MRSA is not 100% sensitive. A carrier may have undetectably low carriage which manifests itself only after antibiotic treatment or stress such as surgery. It is, however, considered worth screening before major surgery in order to be able direct chemoprophylaxis and therapy for post operative infection.

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## ADMISSION SCREENING POLICY

- Wash in chlorhexidine detergent (pink) undiluted daily
- Mupirocin to nose three times per day (check MRSA sensitive)
- Chlorohexidine powder talcum to axillae and groin after bathing

## ADMISSION SCREENING POLICY

Note that screening will not detect all carriers

- Patients for major elective surgery
- Patients for planned major surgery should be screened (nose and wounds) preferably in a pre-surgery outpatient clinic
- "Major" surgery includes cardiothoracic, vascular, orthopaedic (implant), neurosurgical and intra-abdominal surgery
- If screening is performed just before surgery, then the results will be available in the post-operative phase
- If found to be a carrier of MRSA pre-surgery, the operation should be deferred and patients should embark on the eradication protocol (detailed below) continuing until the date of surgery. The protocol should be started within 5 days before the intended date of surgery. The patient should not stay in hospital during this period
- For patients requiring surgery, please inform theatre staff. Patient should be last on the list (see policy for Operating Theatres)
- Surgical prophylaxis should be modified if a patient is known to be colonised with MRSA

### Patients admitted to Intensive Care Units

- Patients admitted to Intensive Care Units should be screened for MRSA on admission

### Screening method

- Take swabs from nose only. Moisten swabs with transport medium. Swab nose (one swab to both nostrils).
- Send with one request form which states "MRSA NOSE SCREEN"
- Swab any WOUNDS AND LESIONS. Send with a separate Request Form

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requesting C&S. (These will be processed for any significant bacteria).

- (Other sites may be screened for study purposes.)
- Screening must not be done while the patient is on a 'Staphylococcal Decontamination Protocol'.

### MANAGEMENT OF PATIENTS FOUND TO HAVE MRSA

- The value of regular hand hygiene in the prevention of infection cannot be over-emphasised
- Alcohol gel (or alcoholic chlorhexidine hand rub) should be used, or clinical hand washing performed, before and after attending to the patient.
- An apron should be worn if there is a likelihood of clothing/uniform becoming contaminated by a procedure.
- Gloves should be worn if there is a risk of hands becoming contaminated by the procedure.
- Source Isolate patients with infected wounds and particularly with respiratory tract colonisation in a single room (or designated area within a ward). Isolate other colonised patients if possible especially on high risk units (eg surgical or orthopaedic wards).
- If nursed on the open ward, keep infected patients separate from those for elective surgery. Cohort nurse if several patients are involved. Use team nursing to keep activities for those colonised separate from non-colonised patients. Preferably one nurse should look after the infected and no other patients.
- Inform the Infection Control Team if a patient known to be colonised with MRSA is admitted to the ward. The ICT can help to make decisions about the need for isolation, cohort nursing and eradication.
- Visitors need not wear protective clothing, but should wash their hands in chlorhexidine gluconate or equivalent or rub their hands with alcohol gel, when leaving the patient. They should be asked not to perform tasks for other patients in the ward.
- Admit patients known to be carrying MRSA into Source Isolation if colonised in the lower respiratory tract or purulent wound(s).
- The patient must not be transferred anywhere (except home) without informing receiving ward/unit.

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## FOLLOW UP SCREENING

Repeat screening of nose and wounds is only done after attempted eradication (no sooner than 48 hours after stopping the protocol). Otherwise, it should be assumed that a patient colonised MRSA remains so for the duration of an admission.

### Endemic areas

It may be considered worth screening all patients in special units such as ICU on a regular basis.

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## FOLLOW UP OF COLONISED PATIENTS

- Infectious patient(s) (eg colonised in purulent wounds or lower respiratory tract), if not to be sent home promptly, should remain in isolation until discharged.
- If wounds heal, then the patient may be re-screened in appropriate sites.
- Perform a risk assessment before letting a patient out of Source Isolation.
- On re-admission, patients known to have had MRSA should be assumed to be carriers. If screened, many patients will be found to be negative because carriage disappears with time, though rarely in those with chronically open wounds. Even if found to be negative on screening, MRSA carriage can reappear especially if the patient is given antibiotics.

## OUTBREAKS OF MRSA

- Two or more cases in a ward *where MRSA is unusual* or with an *unusual strain* constitutes an outbreak so patient and staff screening may be required. Large outbreaks may require closure of a ward to admissions.

## CLEANING PROCEDURES



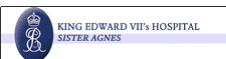








- Daily cleaning procedures of side rooms will be performed by domestic staff according to the Source Isolation procedure (See policies for Source Isolation and Decontamination). Generally, surfaces are wiped down with General Purpose Detergent only, using fresh disposable cloths for each room or bed area.
- After discharge and following thorough cleaning with GPD, all surfaces should be wiped with a disinfectant (eg Hycolin 2% or fresh chlorine releasing agent) and allowed to dry.

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### STAFF FOUND TO HAVE MRSA

- Health care staff with skin conditions such as psoriasis, eczema or dermatitis should not look after these patients. They should discuss the risks of working in a clinical environment with Occupational Health.
- Screening involves taking proper specimens from the nose and any wounds or skin lesions and should be done by a member of the Infection Control Team or in Occupational Health. Staff are advised not to screen themselves for MRSA without the knowledge of ICN or OH.
- Occupational Health Department and the member of staff will be notified by the Infection Control Team if a screen is positive.
- On any request form, please state the area in which the staff member is currently working. Results will be confidential and returned to the Occupational Health Department.
- Staff members will be given a prescription for the preparations listed below and follow the Staphylococcus Decontamination Protocol.
- Staff should not stay away from work during this time but nasal carriers with colds will be more likely to shed bacteria and should stay away from clinical areas until the cold is better.
- The eradication protocol is to be followed for 5 days, then staff will be re-screened at least 2 days after stopping all treatment and then twice more at weekly intervals. If carriers remain positive after following the protocol, special advice will be given depending on sites of persistent carriage.

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## LIMITING THE IMPACT OF MRSA AND OTHER RESISTANT ORGANISMS ON THE OPEN WARD

- Clear guidance to all staff on the principles of control of cross infection
- Inform patient of objectives
- Use patient information leaflets
- Challenge visiting clinical staff to observe agreed ward practices
- Management of patient bedside areas
- Keep lockers clear
- Alcohol gel by every bedside
- Keep handwashing areas clean, keep solutions topped up
- Place waste disposal arrangements, gloves and aprons in convenient sites
- Treatment preparation areas and trolleys for aseptic techniques to be kept clean and wiped with 70% isopropyl alcohol before tasks.
- Good communications with domestic staff to facilitate schedules and spot cleaning
- A thorough cleaning regime
- Establish cleaning regimens for BP machines, commodes, and other common user equipment
- Keep treatment rooms and storage racks and cupboards clean and tidy, do not overstock items
- Keep sluice and dirty areas clean and tidy. Clean commodes after each use.
- Keep nursing areas and notes clean and tidy. No food at the nurses' station.
- Establish a forum for staff and/or patients to discuss concerns

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