

LTHT Infection Control Policies

Policy No 15

MRSA Interim Policy

“MRSA” stands for Meticillin Resistant *Staphylococcus aureus*. It is a bacterium that is resistant to certain antibiotics including flucloxacillin and all cephalosporins. MRSA is not a significant risk to healthy people, including health care workers and visitors, but can cause serious infection in vulnerable patients. Such infections can be very difficult and expensive to treat.

This policy covers the majority of situations in which patients with MRSA have to be managed. However some specialist units and areas within the LTHT will have specific arrangements that have been agreed with the Infection Control Team. A copy of these arrangements should be kept as an appendix to this policy in the Infection Control Manual on the ward/department concerned.

Scope of policy

- ❖ This policy applies to all healthcare staff and students working in LTHT

Aims

- ❖ To prevent and control the spread of MRSA within LTHT
- ❖ To provide a safe environment for all patients within LTHT

Key Points

- Hand hygiene is the most important measure in preventing the spread of MRSA. (please refer to LTHT Hand Hygiene policy)
- Infection control management of patients with MRSA must be based on an assessment of the risk of spread to other patients.
- Patients who present an increased risk of spreading MRSA will need to be managed in Source Isolation and the room cleaned appropriately. (See LTHT Source Isolation and source isolation cleaning policies).
- Equipment and the hospital environment can be involved in spread of MRSA if cleaning or decontamination is inadequate or has not occurred in between patients. Please refer to LTHT Decontamination of Hospital Equipment Including Medical Devices policy.)

- ❖ Screening for MRSA will only be carried out following a thorough risk assessment and by prior arrangement with the Infection Control Team.
- MRSA colonisation or infection should never be a contraindication for discharge to a nursing or residential care facility
- All other infection control policies that are referred to within this document can be found at <http://lthweb/departments/infectioncontrol/>
- All positive MRSA patients MUST be provided with an MRSA patient information leaflet. This is available from the LTHT print unit. (purchase code WRU1003)
- Prior to progressing through this policy please see the glossary of terms on page 9 of this policy

Where is MRSA found?

MRSA, like other *Staphylococcus aureus* strains, colonises moist or broken skin, in particular the axillae and groin areas. The most common carriage site of MRSA is the nose; it can also be found occasionally in the throat. MRSA can cause a wide variety of infections including skin and wound infections and bacteraemia (blood sepsis)

How does MRSA spread?

- MRSA is most commonly spread on the hands of health care workers.
- Hospital equipment can be a route of spread if not adequately decontaminated between patients. (See **LTHT Decontamination of Hospital Equipment Including Medical Devices**)
- Patients with MRSA are likely to contaminate inanimate objects and the hospital environment in their vicinity. Subsequently this contamination can be transferred to other patients either directly, or via staff hands.

What do you do if a patient is found to have MRSA?

Infection control management of patients from whom MRSA has been isolated must be based on risk assessment. (This is the assessment of the risk of MRSA being spread from such patients to others and the risk of MRSA acquisition to those patients.)

Staff caring for the patient should undertake the risk assessment. The factors that need to be taken into account when assessing the risk of transferring MRSA to other patients include:

- The site or specimen from which MRSA has been isolated. Remember, that leaking wounds, drains in situ, exfoliating skin problems and coughing and

expectorating patients carry a higher risk of transmission to others due to the nature in which it can be spread, for example a coughing patient will cough out large numbers of MRSA which will become airborne, a patient with exfoliating skin problems will shed skin scales in and around the environment which will come into contact with others, similarly a patient with a leaking wound that is striking through a dressing frequently would introduce high levels of infectious exudate into the environment.

- Whether the patient has clinical evidence of an infection (i.e. has associated symptoms) or is colonised (i.e. is asymptomatic).
- The environment in which the patient is being managed (i.e. the susceptibility of other patients to MRSA infection (see HIGH, MED, LOW categories on page 4)

Below are some examples of actual risk assessments

(NB these are only examples - every case will need individual assessment)

- A patient with MRSA in sputum who is coughing and expectorating presents a high risk of transferring the organism to others and will need to be isolated in any acute care environment.
- A patient with MRSA in urine who is not catheterised, is continent and has no symptoms is very unlikely to present a risk to others and would not need isolating except in very high risk areas such as intensive care units as the patients within this environment are more susceptible to infection have multiple invasive devices in situ and may well be immuno suppressed.
- A patient who has a superficial wound infection which is not excessively leaking and requires occasional dressings presents a moderate risk to others and may be isolated depending on the care environment that they are in, for example. Isolation would be required in both a “surgical” or critical care environment but not necessarily in an obstetric area. The reasons for this is that in both the critical care environment and the surgical environment patients are more susceptible to infection due to multiple invasive devices insitu and/or have undergone major surgery which may have resulted in a large surgical wound.
- Part of the risk assessment that you carry out should include the judgement of any untoward outcome, to other patients. For this reason we can categorise patient areas into the following:

As defined in *Coia .J.E (2006)*.Hospital wards and departments can be broadly divided into 3 categories;

High risk	Medium risk	Low risk
Intensive care Neonatal intensive care Transplantation Cardiothoracic Trauma Vascular Surgery Renal And any other specialist areas defined by the ICT Which would include: High dependency areas Liver unit Neurosurgery ENT	Admission wards General surgery + inpatient surgical wards Urology Paediatric General medical Elderly medicine Oncology and haematology	outpatient areas, obstetrics and gynaecology Ophthalmology.

N.B Low risk does not mean no risk; advice on management of patients in these areas will be given by Infection Control/Clinical Microbiology).

(Please be advised that pending new guidance/consultation with stakeholders the above categories may be subject to reclassification)

Depending on the outcome of the risk assessment the patient will either need to be in Source Isolation (see [LTHT Source Isolation and source Isolation Cleaning policies](#)) or may be managed using standard Infection Control Precautions (see [LTHT Standard Infection Control Precautions Policy](#)).

What about ending source isolation?

- The decision to discontinue source isolation will be made using the same principles of risk assessment as described previously i.e. as the circumstances of the patient, the infection or colonisation or the environment change, the need for continuing isolation will need to be re-assessed. For example a patient with a previously leaking wound that has now dried up will no longer require source isolation as there is no longer a transmission risk from the exudate. .
- Screening swabs/cultures for MRSA status play little or no role in such decisions **and should not therefore be undertaken routinely.**

- In certain circumstances screening may occur but not without prior consultation with infection control/microbiology.

The Infection Control Team is available to discuss, and assist with risk assessment.

Are there any specific precautions for MRSA?

- Most of the necessary precautions for managing patients with MRSA can be found in the Source Isolation, Source Isolation Cleaning, Standard Infection Control Precautions and Hand Hygiene policies. As with all patients the most important infection control procedure is hand washing and/or use of an alcohol hand rub.
- Additional measures may be required for certain patients such as specific peri-operative prophylaxis or eradication treatment. These or similar strategies should not be attempted without prior discussion with Infection Control Team or Clinical Microbiologist.

Should any form of prophylaxis or eradication treatment be used to reduce the carriage of MRSA?

- In certain circumstances it will be necessary to try and reduce carriage of MRSA using topical agents such as “Mupirocin” nasal ointment and “Aquasept” bathing..
- The topical control regimen (see appendix A.) should be used with:
 1. Patients who have been identified as at risk of potential MRSA carriage/ acquisition or entering an intensive care area.
 2. Patients undergoing a specific surgical procedure,
 3. Patients who have had MRSA isolated from a clinical sample.
- **A full and comprehensive list of the areas and departments that should be using either prophylaxis or eradication treatment can be found in appendix C**

Patients **should be given one course only of the topical control regimen per LTHT in patient stay.** (This includes all previous use including prophylaxis use.) If you require advice please contact Infection Control/Clinical Microbiologist. This issue is important in minimising the risk of emergence of resistance to Mupirocin.

N.B. Due to a temporary national shortage of Aquasept areas are being currently asked to use a 4% chlorhexadine solution. Please contact your pharmacist for further advice.

Should patients be screened for MRSA?

- Screening swabs/cultures for MRSA status play little or no role in such decisions and should **not** therefore be undertaken routinely.
- In certain circumstances screening may need to occur but not without prior consultation with infection control/microbiology.

What about admitting a patient who is known to have, or have had MRSA?

- Patients who have had MRSA in the past are likely to remain colonised and may present a risk of infection to others.
- If a patient is admitted either from home or from another health care provider with known MRSA (or a history of MRSA), a risk assessment should be undertaken as soon as possible. If no single room is available again a thorough risk assessment should be undertaken and the patient managed using Standard Precautions and Source Isolation at the bed space if appropriate. (Infection Control/Microbiology can be contacted for advice).
- If patients are transferred within the LTHT, the ward/area transferring the patient **must** discuss the risk assessment and management of the patient with the receiving ward.

What measures are needed on discharge?

- If the patient is to be discharged to the care of a nursing, residential home or district nurse then a copy of the community discharge sheet [see appendix B] should accompany the patient.
- Colonisation/ Infection with MRSA should **never** be a contraindication to nursing home/residential care.
- If the patient is being transferred to another hospital Trust/health care provider the management of the patient **must** be discussed with the receiving facility before the patient is transferred.

New guidance (outstanding items)

Recent new guidance released from the Department of Health (2006) regarding:

1. Screening for MRSA colonisation
2. PCR rapid testing

Require further exploration and discussion by the organisation before inclusion in this policy.

DoH (2006) Letter from the chief medical officer and chief nursing officer, Screening for Staphylococcus aureus (MRSA) colonisation.

Outstanding items/on going work

1. *Reclassification of high medium low risk categories*
2. *Patient care pathway*

References and Further Reading

Duckworth G. et al (1998) Revised guidelines for the control of methicillin-resistant *Staphylococcus aureus* infection in hospitals. *Journal of Hospital Infection*. 39 (4);253-290

Coia J, Duckworth G, Edwards D, Farrington M, Fry C, Humphreys H, Mallaghan C, Tucker D (2006)

Guidelines for the control and prevention of methicillin-resistant staphylococcus aureus (MRSA) in healthcare facilities by the joint BSAC/HIS/ICNA working party on MRSA

Journal of Hospital Infection 63(supplement) :S1

DOH (2006) Saving Lives: a delivery programme to reduce healthcare associated infection including MRSA. Screening for methicillin-resistant staphylococcus aureus (MRSA) colonisation

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Glossary of terms

Host

A living organism (in this case man) which another organism can live and be sustained on or within.

Carriage / or carrier

Can be defined as a person that harbours a specific disease in the absence of signs and symptoms of infection and is therefore potentially infectious to others. The carrier state may exist in the individual as unknown (healthy, asymptomatic carrier) or during a period of convalescence. In either case the carrier state may be of a short duration (transient carrier) or long term duration (chronic carrier)

Colonisation:

Can be described as when bacteria that are able to cause infection are found in a non-infected site. (Therefore have not initiated a host response), e.g. *Staphylococcus aureus* carriage in the nose.

Infection

Can be described as a host reaction to microbes lodging and multiplying in the tissues, e.g. abscesses, wound infections or chest infections. (The host would exhibit symptoms of infection for example fever of >38 deg C, and associated symptoms at/in the site of infection.

Eradication therapy

Prescribed treatment to reduce the amount of MRSA on the skin of individuals who are either infected or colonised. Undertaken as a 5 day course of nasal Mupirocin and Aquasept bathing (2% Triclosan)

Prophylaxis

Prescribed treatment given as a preventative measure to patients to reduce the amount of micro-organisms (in particular MRSA) which may be present on the skin prior to admission to a high risk category area (see page 3) or prior to a high risk surgical procedure. (See appendix C)

Appendix A: Topical Regimen for the Control of MRSA Carriage

Mupirocin 2% nasal ointment (Bactroban)

Apply with a cotton wool swab or finger to the nasal nares 2 times per day for 5 days. Wash and dry your hands thoroughly before and after each application.

Antiseptic body wash

Use:

Triclosan 2% (Aquasept)

OR

Aqueous Povidone Iodine (Betadine) skin cleanser 4%

OR

Chlorhexidine gluconate 4% (Hibiscrub)

Daily for 5 days.

For maximum effect these products should be used neat as a liquid soap/shampoo.

Directions for use (also see individual product directions)

1. Wet skin before application.
2. Using as a liquid soap/shampoo, apply the chosen product from head to toe.
3. Wash vigorously with particular attention to the groin/axilla regions.
4. Rinse thoroughly.
5. Dry, using clean towels.

Other topical agents may be required but the following should only be used if requested by Infection Control/Microbiology.

Antiseptic powder (Sterzac or CX powder)

Apply like talc following bathing, especially to axilla and groin areas.

Corsodyl mouthwash

Use the mouthwash 4 times per day. If present, dentures must be removed and cleaned using the mouthwash.

Appendix B: Guidelines on the Control of *Staphylococcus aureus* (including MRSA) in Patients Discharged from Hospital.

Definitions

- a) Colonisation: when bacteria that are able to cause infection are isolated from a non-infected site, e.g. *Staphylococcus aureus* in the nose.
- b) Infection: is the reaction to microbes lodging and multiplying in the tissues, e.g. abscesses, wound infections or chest infections.

Although these guidelines are to be used with patients discharged with an infection, we may not always be aware of colonisation or even infection. Therefore, constant good practice, particularly hand hygiene, is necessary to prevent the spread of microbes.

Individual assessment

Every suspected infected patient should be assessed so that their treatment can be determined by the relevant medical staff, in conjunction with the microbiologist.

Hand washing

Necessary after contact with infected people or contaminated articles: paper towels must be used to dry hands. Alcohol handrub should be available, and its use understood.

Protective clothing

Single-use seam free gloves should be used for handling contaminated dressings, linen, equipment etc. Single-use plastic aprons to be used for close contact with infected persons or their immediate environment.

Isolation

Not usually needed outside hospital.

Aseptic technique

To be used when dealing with wounds and for other aseptic procedures.

Waste

Infected materials, e.g. dressings, to be disposed of as clinical waste.

Linen

Follow usual laundry procedures.

Education and prevention

Staff should apply universal infection control precautions to all patients.

Communication

On transfer or discharge, advice about any infection should be included in the information given to other providers of health care.

Appendix C

Areas within the Trust using Mupirocin/Aquasept

Must check patient has not already received this within last 6 months.

As prophylaxis:

Orthopaedics

All patients requiring metal work (including external fixation and Ilizarov frames)

Vascular

Implants and reconstruction surgery

ICU

- SJUH, 3, 6, 5/7

All patients admitted to intensive care who has not received either Prophylaxis or Eradication treatment within the last 6 months.

HDU

- Orthopaedic HDU
- SHDU SJUH
- Ward 8 LGI

(Neuro High Dependency is not included in this)

GI surgery

Prior to the following surgical procedures only:

- Exploratory laparotomy
- Hemicolectomy
- Hartmans
- Open cholecystectomy
- Gastrectomy
- Oesophagectomy
- Pancreatico-duodenectomy
- AP resection
- Low and higher anterior resection
- Proctectomy
- Pancreatic resection
- Gastric duodenal ulcer resection
- IPAA

(Day surgery is not included in this)

Liver Transplant SJUH

ENT

All major resections and flaps

PEG insertion

Cardiothoracic surgery

CABG

Valve replacements/repairs.

All patients in the above areas are subject to eradication therapy on clinical isolate if **not received as prophylaxis.**

Eradication

All clinical areas (except see below)

Cystic Fibrosis patients - please discuss with Infection control/ microbiology.

Areas not receiving prophylaxis or eradication

Paediatrics, Obstetrics and Gynaecology, Ophthalmology areas are subject to discussion with Consultant Microbiologist.