

Infection Prevention and Control Guideline no 14

Management of Meticillin Resistant *Staphylococcus aureus* (MRSA)

This document reflects the consensus of the Dorset
Infection Control Forum and contains local amendments
to the main document that is available on request from
the Infection Control Team

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Version Control

Version	Date	Author	Section	Principle Amendment Changes
5	15/11/10	JC KC	Section 5.1	Inclusion of Emergency Screening
			Section 5.2.4	Extension of no-risk screening validity to 18 weeks
			Section 5.4	Inclusion of Rapid Screening
			Section 11	Inclusion of additional reporting
				Inclusion Appendix A Emergency Screening exclusions
				Amendment to appendix B to include further exclusions for elective screening.
4.3	March 09	1	1.4	Clarification of the term 'current MRSA screen'
4.3	March 09	6	ALL	MRSA Screening of Elective Admissions
4.3	March 09	8	8.2	Routine screening should not interfere with standards of wound management. Wounds should be risk assessed and swabs sent to the laboratory if infection is suspected, regardless of MRSA screening protocols.
4.3	September 2009	Appendix B		Amendment to decolonisation form

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Key Principles

Responsibility	Infection Prevention and control is everyone's responsibility and depends upon members of staff maintaining their own high standards and those of fellow workers.
Mode of transmission	The predominant means of spread of MRSA is via the hands of healthcare workers. Effective hand hygiene can reduce the spread of MRSA as well as other noscomial pathogens, especially as part of an integrated IPC programme.
Clinical Practice and the environment	A high standard of hand hygiene, aseptic technique and a regularly cleaned clinical environment are important to prevent healthcare associated infections.
Contact Precautions	To reduce the risk of staff transmitting MRSA, contact precautions must be observed when caring for colonised/ infected patients i.e. disposable gloves, and plastic aprons when in contact with patients or their immediate surroundings.
Patient Isolation	Patients at high risk of disseminating MRSA must be managed in isolation. Ideally all MRSA colonised patients should be nursed in isolation, source isolated or as a co-hort.
MRSA screening	All adult emergency admissions All elective planned admissions with the exception of those excluded in table 1 of this policy.
Environmental Cleaning	During admission the patient environment should receive a thorough clean using a hypochlorite solution of 1000ppm. After discharge /transfer the environment should be thoroughly cleaned using a hypochlorite solution 1000ppm. There should be special emphasis on cleaning "patient touch" surfaces. Bedside curtains should also be changed.
MRSA decolonisation	Suppression of colonisation should be attempted on in-patients found to be MRSA positive, and prior to admission for elective patients. It should be noted that treatment of MRSA patients will not necessarily eliminate carriage. However it is important that the protocol is adhered to as outlined in appendix C of this policy.
Staff colonization and infection	Staff colonised with MRSA will be managed by Occupational Health Services. Staff should not usually return to work until at least 48 hours of total eradication therapy has been completed.

1. Introduction

1.1 Meticillin-resistant *Staphylococcus aureus* (MRSA) is a skin bacterium that is resistant to antibiotics (such as flucloxacillin) that would traditionally be used to treat *Staphylococcus aureus* (SA) infections. Meticillin is an antibiotic previously used to treat such infections, replaced by flucloxacillin from the same group of antibiotics with the same resistance.

1.2 The infections MRSA causes are not considered more serious than those caused by flucloxacillin sensitive *Staphylococcus aureus*, but they can be more difficult to treat due to the limited choice of antibiotics. *Staphylococcus aureus* can cause serious infections of the skin, soft tissues, wounds, respiratory tract, bone, joints, cardiac tissue and blood i.e. septicaemia etc. Whilst MRSA is capable of causing serious and life threatening infections, it is generally carried in the nose or on the skin without causing harm.

1.3 MRSA colonisation is the presence of MRSA in the absence of infection. MRSA colonisation in itself does not cause illness; however, colonisation in vulnerable patients may precede infection, which may be severe and life threatening. A high percentage (20-30%) of the population may carry *Staphylococcus aureus* (the antibiotic sensitive SA) as one of their normal skin organisms. The most common carriage site is the nose, and frequently colonises moist or broken skin, in particular the groin and axillae.

1.4 In a health care environment, MRSA is most commonly spread on the hands of healthcare workers.

1.5 MRSA is a significant problem in hospital settings whereby the opportunity for infection to occur is increased due to:

- Use of invasive devices e.g. intravenous lines, endo-tracheal tubes, catheters.
- Use of antibiotics that alter the natural skin flora (all people are colonised with bacteria on their skins) as the resident bacteria are eradicated by the antibiotics administered.
- Altered immunity of patients due to underlying diseases.
- Surgical wounds;
- Interventions within a healthcare environment.
- Certain conditions, such as pneumonia or exfoliating skin disease, increase the risk of extensive environmental contamination with subsequent increase in hand-borne transmission and the potential for airborne spread.

1.6 There are two main risks associated with the admission of patients who carry MRSA to hospital: There is a risk that they will be a source of MRSA cross-infection to other patients, and they themselves are at increased risk of MRSA infection, especially if they undergo invasive procedures. The aim of screening is to identify these patients so that measures can be put in place to reduce these risks.

2. Policy Statement

The purpose of this policy is to describe best infection prevention and control practice that must be adhered to when caring for a patient with MRSA, identifying possible carriers, and minimising the risk of acquisition.

2.1 Objectives

The objectives of the policy are:

- To prevent the spread of MRSA within the trust;
- To protect patients from infection or colonisation with MRSA.
- To ensure patients who are confirmed to have MRSA are managed safely and appropriately and receive adequate information about their condition.
- To ensure Trust staff have the information they need to identify and manage patients who are colonised or infected with MRSA.

The policy will meet the requirements of the operational guidance issued by the Department of Health for screening patients for MRSA. Guidance available at:

http://www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Dearcolleague/letters/DH_086687

http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_114999.pdf

All healthcare workers will comply with this guideline to minimise healthcare associated MRSA infections. Following all necessary precautions as directed in the Trust Infection Prevention and Control Guideline/s
http://rbhintranet/infection_control/policies.shtml

3. Management of MRSA

Prevention and Control strategies for hospital settings are based upon the following components:

- The most important measure in preventing the spread of MRSA is hand hygiene before and after contact with patients and their potentially contaminated environments.
- Other important measures include patient isolation, contact precautions, environmental cleaning and decolonisation.
- The risk of infection may be reduced by timely decolonisation and by including anti-MRSA antibiotics in peri-operative prophylaxis. Advice regarding appropriate prophylaxis should be obtained from the Consultant Medical Microbiologist.

4. Classification of Risk for the management of MRSA

4.1 Patients may be known to be MRSA positive or at high risk of being so. Adult patients who fulfil any of the following criteria are considered to be at "Higher Risk" of being colonised (or infected) with MRSA. Patients considered to be at higher risk are:

- Patients with any history of MRSA colonisation or infection, however long ago.
- Patients resident in nursing home or similar long-term facility.
- Patients who have been transferred directly from another hospital (unless negative discharge MRSA screening results are available).
- Adult patients with any history of hospitalisation for >24 hours within the previous 6 months.
- Patients with any significant wounds that have been receiving healthcare support.

4.2 All patients with MRSA isolated by screening will be flagged as a risk on the the electronic patient record eCAMIS (Critical Patient Information or CPI)

4.3 Ward environments have been classified according to area and speciality. **High risk areas include:**

- Critical Care Units (ITU, HDU, CCU)
- Orthopaedic Wards
- Vascular Wards
- Haematology Units
- General Surgery
- Cardiac Wards
- Gastro-enterology

4.4 Management in High Risk areas includes the following:

- Patients with a previous positive MRSA isolate must be nursed in single rooms and will remain in single rooms regardless of screening result.
- Patients meeting the criteria for potential risk of MRSA on admission should where possible be nursed in single rooms.
- Clinical staff must communicate with housekeeping staff to identify the requirement for barrier cleaning during isolation.
- Signs outside the room should identify the requirements for staff and visitors entering the room if the patient is colonised.
- Patients with a history of MRSA must be screened and followed up in accordance with decolonisation protocol.
- Screen weekly during admission episode.
- Staff should not be screened unless directed by the ICT/ OH.

4.5 Management in Medium Risk areas. These areas include all General Medical Wards, Hospital Rehabilitation and Elderly Care. A single room is indicated for patients with a history of MRSA if:

- Patient has significant wounds (see wound assessment chart)
- Are known to be heavily colonised in multiple sites
- Widespread exfoliating condition
- If the MRSA has uncommon sensitivities to antibiotics (advised by the ICT)
- Risk assess the vulnerable and at risk (e.g. confused patients with invasive devices) and seek advice from the ICT.
- Take account of the proximity of other patients and ensure that all care is taken to reduce the risks of them becoming colonised/ infected. Patients with invasive devices (e.g. Central Venous Catheters) must not be managed next to patients known to be colonised with MRSA who have not been decolonised. IPCT must be informed if this is the case.
- Patients with a history of MRSA must be screened and followed up in accordance with decolonisation protocol
- Screen weekly during admission episode.

4.6 All isolation, whether single room, cohort or source isolation, must follow the isolation guidelines.

4.7 Where there is evidence that demand for single-rooms exceeds the available capacity the first step should make use of the **isolation priority score tool** http://rbhintranet/infection_control/pdf/outbreak_seminar/priority_scoring_sideroom.pdf

It may be necessary to establish a cohort facility. A co-hort is a bay of patients who have the same infectious agent e.g. MRSA. The co-hort bay must only accommodate patients of the same sex. IPCT staff must be involved when a co-hort bay is established.

5. MRSA Screening

The prevention and control of infection including the organisms associated with health care acquired infection is a priority for the NHS. The duties of each organisation are laid out in The Health & Social Care Act (HSCA) 2008 Code of Practice.

From September 2009 all elective admissions have been screened for MRSA, and from December 2010, all emergency admissions to the Trust were included in the screening protocols. (Screening for MRSA colonisation - a strategy for NHS Trusts: a summary of best practice, DH, 2010).

5.1 Screening of Emergency Admissions

5.1.1 All patients admitted as an emergency must be screened for MRSA on admission to wards. Exclusions are detailed in Appendix A.

5.1.2 This applies to patients admitted to AAU and ASAU either directly or via CDU and to all patients admitted directly to Critical Care and wards, in particular Gastro enterology (ward 1) Acute Lung Unit (ward 2) Acute Stroke Unit (ward 28).

5.1.3 Nose, Groin, CSU and device insertion sites are expected to be screened within **8 hours** of admission. Wounds need to be screened when dressing is first taken down. It is not anticipated that any dressing from IV line be taken down for screening and that the site of swabbing should be at the point where the line exits the dressing.

5.1.4 Standard laboratory testing will be undertaken on all swabs unless after liaison with the Infection Prevention and Control Team a **PCR rapid test** is indicated.

5.1.5 **Criteria for PCR testing (see section 5.4) includes:**

- Emergency Medical admission to high risk area when the patient has no history of MRSA and is likely to undergo an invasive procedure within following 3 days (Invasive procedure includes: Angiography, insertion of central venous or tunnel devices, pacemaker insertion)
- Emergency Surgical admissions when there is a likelihood of surgery taking place within the following 3 days, and the patient has no history of MRSA
- Elective admission when the period before admission does not allow standard screen processing.

5.1.6 All wards are expected to identify if admissions have a history of MRSA or live in residential accommodation, and isolate according to their local protocol pending results of admission screening.

5.1.7 All other wards are expected to identify if admission screening has been performed on admission, following any transfers, and do this if not already performed.

5.1.8 Should a patient refuse to allow MRSA screens to be taken this should be documented at the time of screening and referred to the IPCT.

5.1.9 Surgical prophylaxis should be discussed with the Consultant Medical Microbiologist.

5.2 Screening of Elective Admissions

5.2.1 Relevant day case and in-patient admissions will be screened in accordance with Department of Health Guidance depending on the procedure being undertaken as detailed in appendix B

5.2.2 Verbal consent must be obtained from patients prior to screening. If patients refuse to be screened after provision of further written or verbal information this should be recorded in the clinical record and the Infection Control Team informed.

5.2.3 All patients will be provided with written information explaining the screening process, how results will be communicated to them and guidance about the decolonisation process. Patient leaflet is available on the Trust's intranet http://rbhintranet/policies/patient_information/mrsa_planned_admission.pdf and internet sites. www.rbch.nhs.uk/infection_prevention/index.shtml

5.2.4 Current Screens: For patients with **no** history of MRSA a current screen is considered acceptable if taken within 18 weeks of admission, with no healthcare intervention in the interim period. Any hospital admission within this time will require re screening. If early readmission is expected screening should be done, where possible, on discharge. For patients with previous history of MRSA, a current screen history is considered to be one that:

- has been completed no more than 4 weeks previously,
- without further antibiotic challenges
- without further hospital admissions.

5.2.4 Patients who are discharged prior to the result being available should be advised that their GP will be informed of the swab result by letter and informed of any action required. They will not be advised of any negative results.

5.2.6 Patients who are known to be previously MRSA positive will be screened and may be issued at decision to treat (DTT) with decolonisation treatment to commence 5 days before the procedure, or followed up by the speciality when screen results are available.

5.2.7 Timing of elective screening In order to ensure that the patient pathway is not extended through additional appointments or delays patients will be screened at the out-patient appointment where decision to treat is made (DTT).

5.2.8 Frequent attendances for in-patient medical procedures e.g. weekly/monthly chemotherapy, will be screened prior to the first admission at DTT. On all subsequent attendances screening will be undertaken on arrival to the ward at monthly intervals.

- 5.2.9** Frequent attendances for day case procedures e.g. chemotherapy, blood transfusion will be screened prior to first attendance at DTT. On subsequent attendance screening will be undertaken at intervals no less than 18 weeks. This does not include procedures that require day case investigation followed by admission for follow on procedures, which are considered separate admission episodes.
- 5.2.10** If a member of staff is to receive treatment as a patient they must be screened after a period of days off to ensure that transient carriage is eliminated.
- 5.2.11** Patients who are pre-assessed by GPs and attend or are admitted direct for treatment without prior hospital assessment will be screened by the GP where possible, or screened on admission following elective/emergency pathway as policy.
- 5.2.12** Patients are advised that only positive results will be communicated and therefore no further action will be taken if the swabs are negative.
- 5.2.13** Positive results will be issued to the Infection Control Team for action and to clinicians through the normal reporting mechanisms.
- 5.2.14** Patients and GPs will be advised by either telephone or letter of the positive result. This is the responsibility of the clinical team unless otherwise agreed by the ICT.
- 5.2.15** Patients will be asked to use nasal Mupiricin and Chlorhexidine body wash for 5 days prior to the admission date, the final day being the day of admission. If the date of admission is less than 5 days then the decolonisation will begin as soon as possible and continue during the admission for the full 5 days regardless of discharge within that period.
- 5.2.16** Rescreening of decolonised patients will not be undertaken unless the patient remains an in-patient after 48hrs of completion of the decolonisation. This will then follow the standard Trust policy for in-patients.
- 5.2.17** Full decolonisation and repeat screening before admission will be undertaken in accordance with clinical need at the discretion of the treating clinician and/or the Infection Control team (e.g. orthopaedic joint replacement).
- 5.2.18** Where possible, patients identified with MRSA will be admitted to single rooms. Priority will be given to those with significant wounds, exfoliating skin conditions etc.

5.3 Screening protocol

- 5.3.1** All patients will have nose, groin, any significant wounds (the latter must have the site identified on swab) and CSU if catheterised. Both nasal and groin swabs will be processed as a single specimen and do not require separate identification (see below for PCR screening)

5.3.3 Standard laboratory testing will be undertaken on all swabs unless, after liaison with the Infection Prevention and Control Team, a PCR rapid test is indicated.

Screening procedure

5.3.4 The responsibility for obtaining results and effectively managing patients with MRSA rests with the clinical staff delivering care. It is therefore, important that staff are able to respond to the concerns that patients and their visitors express when told that MRSA has been isolated from clinical specimens. The ICT are available to respond to complex questions related to MRSA.

5.3.5 Verbal consent will be obtained from patients prior to screening. Patients have the right to refuse to be screened for MRSA. In this situation the patient should be reminded that screening is in the best interests of both the patient and other patients in the hospital, and it is a Department of Health requirement that screening is offered. If the patient continues to refuse this should be noted in the nursing or clinical notes, and the MRSA risk based approach should be followed e.g single room accommodation. This should not delay their access to treatment.

5.3.6 An information leaflet will be provided to the patient explaining the process and any follow up action they may expect.

5.3.8 Take specimens as follows (see Section 5.4 below for PCR specimen collection)

Nose:

Take one swab and dampen in sterile normal saline or sterile water. Direct the swab upward inside the tip of the nose (anterior nares) and gently rotate around the nostril. Repeat with same swab in the other nostril.

Groin:

Dampen a swab with sterile normal saline or sterile water and rotate over the skin in both groins either side of the scrotum/labia.

Wound:

ALL wounds and lesions should be screened.

Surgical wounds

If dry, dampen the swab in sterile, normal saline or sterile water and gently swab the suture line. Use a separate swab for any drain sites. It is NOT recommended that wound dressings are disturbed to take routine swabs. Surgical wounds should only be disturbed for screening if there are clinical signs of infection, or at earliest opportunity (i.e when dressing changed)

Chronic wounds

If exudate is present ensure the swab is taken as deeply into the wound edge as possible. Even if the wound is large, one swab taken from the wound edge is adequate. Irrigate the wound with a gentle stream of normal saline at body temperature. Moisten the swab with normal saline. Using a zig zag motion across the wound, rotating the swab between fingers, sample whole wound surface area, or 1 cm² if the area is large. Indicate on the Microbiology form if

antibiotic treatment is currently being administered and the clinical indicators of infection if present.

IV Sites:

Dampen a swab with sterile normal saline or sterile water and rotate over the peripheral intravenous catheter site or entry site of tunnelled line.

Sputum:

If productive cough is present (caution interpreting results as these may represent throat carriage)

Urinary Catheters:

Ensure use of correct sterile container and eliminate any risk of cross contamination during process. Refer to Collection of Specimens policy.

Umbilicus In Neonates:

Dampen a swab with sterile normal saline or sterile water and rotate over umbilicus.

5.3.9 Documentation:

- Affix a self adhesive green 'MRSA SCREEN' label to clinical information box on request form. Circle to indicate history of MRSA (YES/NO). No further clinical information is required.
- Specimens must be labelled 'MRSA SCREEN' label to support data return to the Department of Health.
- Specimens are expected to be podded to the laboratory within an hour of collection unless there is an arrangement for porter collection within the following hour, this is independent of time of day or day of week.
- Record the screen and date taken in the patients healthcare record. For elective patients a screen should already have been taken. Record this, if known, in the appropriate tick box.

5.3.10 It is the responsibility of the admitting ward/department staff to check that a screen has been carried out as required.

5.3.11 Laboratory results will take 2- 3 days to report (approx 2 hours for rapid PCR)

5.4 Rapid PCR Screening

5.4.1 Rapid MRSA screening using the polymerase chain reaction (PCR) method has been introduced to facilitate effective decision making regarding the management/placement of patients who have:

- been exposed to patients who have been found to be colonised with MRSA in high risk areas,
- been admitted for procedures where the time frame between outpatients and admission is too short for traditional laboratory methods to obtain a result- e.g. procedure occurring within 3 days of the swab being taken.
- Unknown MRSA status and admitted to Critical Care or require invasive procedure/s.

- This may also be undertaken in circumstances where there is a demand to use the limited number of isolation rooms for other infections.
- 5.4.2** These tests have limitations due to the sensitive nature of the process and false positive results may arise. Therefore any positive sample detected during rapid screening will also be processed using traditional culture methods to confirm/refute the rapid testing result.
- 5.4.3** Isolation and decolonisation should be followed as policy whilst confirmation is obtained.
- 5.4.4** Patients being advised of positive PCR result should be advised of the confirmation testing taking place.
- 5.4.5** Treatment and isolation may be discontinued and the patient advised if the result of the traditional culture is negative.
- 5.4.6** PCR may give invalid results due to:
- The presence of charcoal media on sampling swabs (red capped swabs used do not contain media)
 - Blood-stained specimens
 - presence of large amounts of mucus on sampling swabs.
- 5.4.7** Rapid testing is available Monday to Friday samples must be received by 15.30 hours to ensure laboratory staff have sufficient time to complete the test. Testing is available at the weekends and staff should phone the laboratory to confirm processing before the sample is sent.
- 5.4.8** All requests for PCR screening must be via either the Consultant Microbiologist or IPCT Nurses, other than Critical Care and Vascular ward 14.
- 5.4.9** Patients undergoing decolonisation within the previous 48 hours and those known to be previously positive for MRSA are not suitable for PCR screening.
- 5.4.10** A nose swab should be sent using the red topped swabs after discussion with IPCT. If swabs arrive in Microbiology by 15.30 a result should be available by the end of the same working day Monday- Friday.
- 5.4.11** If deemed appropriate to proceed with the surgery, these patients should commence a 5 day topical Mupirocin and Chlorhexidine 4% decolonisation treatment as soon as possible pending the MRSA screening result. Patients with unknown screens **and** high risk group should also receive anti-MRSA antibiotic prophylaxis in addition to standard prophylaxis if this is required.
Seek advice from the consultant medical microbiologist

5.5 Staff Screening

- 5.5.1.** Pre employment screening of healthcare workers will not be undertaken routinely.

- 5.5.2** Any staff screening required in the investigation of outbreaks will be carried out by the Occupational Health Department on the advise of the Infection Control Team. Occupational Health will carry out any necessary screening and initiate treatment as required.
- 5.5.3** Staff **MUST NOT** carry out their own screening as it can be difficult to distinguish between transient carriage and prolonged carriage.
- 5.5.4** When screening of staff takes place during an outbreak this is carried out under the guidance of OH and/or IPCT
- 5.5.5** Staff should not carry out self screening under any circumstances – this is to protect staff confidentiality and ensure correct advice is provided.
- 5.5.6** Wherever possible screening should **NOT** take place during or shortly after a period of duty. This is to exclude as far as possible transient carriage. Ideally screening should be arranged after days off or annual leave.
- 5.5.7** Staff may be found to be MRSA positive as part of their elective or acute admissions screening process. This will be managed as part of their admissions process. If the staff member is concerned advice should be sought from Occupational Health Department relating to work activities.

6. Decolonisation

Decolonisation describes the process of topical antisepsis.
(See also [prescription sheet](#) Appendix C)

- 6.1** Full decolonisation should take place regardless of WHICH site is found positive for MRSA.
- 6.2** The protocol must be completed fully using the pharmacy sheet to be effective
- 6.3** Additional measures required during decolonisation as detailed below are also listed on the decolonisation prescription sheet :
1. Ensure barrier cleaning of bed space or room takes place daily;
 2. Clean linen, towels and clothing daily;
 3. Use disposable wipes for personal hygiene;
 4. Terminal clean of bed space and room curtains at end of therapy.
 5. Interrupted or incomplete therapy must be reviewed with the ICT as this may give rise to resistance.
 6. **DO NOT** repeat decolonisation more than twice without liaising with the ICT.

6.4 Pharmacy Protocol:

- 6.4.1** Mupirocin 2% in a paraffin base nasal ointment (Bactroban 3x daily into the inner surface of each nostril for 5 days. Insert into nostril and gently massage- patient should be able to ‘taste’ the ointment. (Should not be used for prolonged periods or used repeatedly as resistance may occur). The presence of a naso gastric tube may reduce the efficacy of treatment. If mupirocin resistance or if the patient is allergic or intolerant of mupirocin, Naseptin (chlorhexidine and neomycin) nasal

cream should be used (note that when "Naseptin is used, the course lasts for 10 days, as opposed to 5 days for Mupirocin). **Do not use for wound care. *Naseptin base contains arachis/peanut oil.**

- 6.4.2** Wash daily for 5 days with Chlorhexidine 4% (Hibiscrub/Hydrex) N.B. **Octenisan[®]** 2% may be used as an alternative for patients who cannot tolerate Chlorhexidine. Apply directly to damp skin on a cloth or sponge. **The cloth or sponge and towels should be disposed or changed daily, use fresh clothing and bedding daily after bathing, wherever possible.** Use of an emollient should be considered for patients experiencing dry skin. N.B. patients with pre-existing skin conditions may be sensitive to the above regime therefore it may be necessary to seek the advice of a Consultant Dermatologist.
- 6.4.3** Wash hair twice weekly (as per protocol) with Chlorhexidine 4% (Hibiscrub/Hydrex). Hair conditioner may be used following application and rinsing of the shampoo
- 6.4.4** In order to preserve the anti-MRSA activity of mupirocin, decolonisation should ideally not be carried out more than twice in any three month period unless recommended. There are no circumstances envisaged in which MRSA decolonisation should be repeated if it has been completed within the previous 14 days.
- 6.4.5** Some patients will remain positive for MRSA despite multiple course of decolonisation. In order to minimise Mupirocin resistance, patients who have been decolonised three times, and are still MRSA positive should not receive further decolonisation unless undergoing a surgical procedures (NB decolonisation policy for dialysis patients, neonates and Oncology may differ from this).

7. Wound and Device MRSA Management

- 7.1** All wounds must be managed in accordance with Wound Formulary Guidance and the characteristics of the wound
- 7.2** Routine screening should not interfere with standards of wound management. Wounds should be risk assessed and swabs sent to the laboratory if infection is suspected, regardless of MRSA screening protocols.
- 7.3** Mupirocin (Bactroban) ointment must NOT be applied to wounds or skin surfaces in close proximity to devices, or around indwelling devices e.g. pegsites, intravascular or drain sites. This ointment must NOT be applied to exuding wounds or lesions OR dry lesions greater than 3 cms in diameter.
- Mupirocin must not be applied to chronic wounds (It may be affective for superficial non exuding lesions of less than 2 cms.
 - The treatment regime must not exceed 5 days unless directed by a member of the ICT (e.g. non compliance with protocol).
 - Review complex wound care with Tissue Viability Nurse.

8. Management of Patient Discharge/ Transfer

8.1 Movement Of Colonised /Infected Patients Within The Hospital

- 8.1.1** Movement of colonised /infected patients should be kept to a minimum within the clinical area but this must not prevent patients from receiving any treatment, investigation or rehabilitation needed.
- 8.1.2** Dress any lesions with occlusive dressings. Use a trolley or wheelchair to transfer to specialist department.
- 8.1.3** If a bed is used for transporting a colonised patient, this must be cleaned and linen changed prior to leaving the ward.
- 8.1.4** Porters or attendant staff need not wear protective clothing if only transporting the patient. Personal Protective Equipment (PPE) must be used if in direct patient contact (ie assisting patient movement).
- 8.1.5** Trolley or wheelchair must be cleaned by the porter after use with alcohol impregnated wipe (70%) or disposable cloth and chlorine releasing agent at 1000ppm
- 8.1.6** Staff must wash hands after patient contact or use alcohol hand sanitiser/gel.
- 8.1.7** Patients may be risk assessed for exercise and social activity where necessary. If possible, this should be discouraged when colonised, but if this causes discomfort or distress they should be encouraged to use only public areas and be compliant with any decolonisation regime required.

8.2 Visits To Outpatients And Specialist Departments

- 8.2.1** The patient should spend the minimum time possible in the department, if possible at the end of any session to reduce interaction with other inpatients.
- 8.2.2** When having physical contact with a patient with MRSA, staff should wear a disposable plastic apron and gloves
- 8.2.3** Equipment and the number of staff in contact with the patient should be kept to a minimum.
- 8.2.4** Surfaces with which the patient has had contact should be wiped clean with a disposable cloth and solution of chlorine releasing agent (e.g. Chlorclean 1000 ppm) or an alcohol impregnated cloth
- 8.2.5** If the patient is a 'heavy shedder' has either eczema or has dry skin due to wearing a plaster the floor will require cleaning once the area has been vacated. (Clean hard floors as surfaces above). If carpeted the floor should be vacuumed after the patient leaves.

8.3 Home Visits

(Physiotherapists, Occupational Therapists and Community Nurses)

- 8.3.1** Carry out the visit at the end of the working day, if possible.

- 8.3.2 Wear apron during all direct patient care, and dispose of waste in accordance with local waste management policy.
- 8.3.3 Clean all small pieces of equipment brought out of the patient's home with disposable alcohol impregnated wipe. as per manufacturers instructions and Trust guidelines. Larger items of equipment should be collected and transported safely to the Integrated Community Equipment Store where they can be decontaminated centrally.
- 8.3.4 Where possible use single-use items and dispose of appropriately. For long-term treatment, consider leaving items for individual patient use in their home.
- 8.3.5 Hands should be washed and dried thoroughly before and after patient care. Use of alcohol hand sanitizer should be considered if hand wash facilities not available.

8.4 Transfer And Discharge of Patients

8.4.1 Acute Hospital Transfers : Screen according to policy of the accepting hospital. Transfers should not be delayed because of screening – the accepting hospital should screen the patient on arrival if screening of newly admitted patients as part of their policy

8.4.2 Community Hospital Transfers: Patients who are to be transferred to community hospitals MAY require screening (see table 2 below). Patients may be transferred prior to the release of results **and transfer must not be delayed awaiting any result.**

Table 2: Community Hospital Requirements

Hospital	Action required
Christchurch Hospital	Screening required for orthopaedic wards
Wareham, Alderney, St. Leonards:	No screening necessary.
Swanage*	Screening required
Wimborne*	Discuss transfer with ward staff. Take screening swabs before transfer. (Only one single side room is available on Hanham Ward).
Lymington*	Screening required for surgical ward 1.

*Surgery is performed at these hospitals and are therefore classified as higher risk hospitals.

8.4.3 Discharge To Nursing And Residential Homes

- Carriage of MRSA should not prevent transfer. MRSA carriage is not a contraindication for transfer to a residential care home.
- Discharge to Nursing Homes of patients newly identified may require negotiation if the patient is sharing a room, as the Nursing Home may have to risk assess the patient sharing. This should not affect patients being discharged to single rooms.
- Decolonisation of patients in residential care/own home should be continued and discharge information confirm protocol.
- There is no requirement to screen following decolonisation other than following the policy for elective or emergency admission screens.

8.4.4 Ambulance Transportation And Discharge Lounge

- **No special precautions are required.** The risk of cross infection from a MRSA colonised patient in an ambulance is minimal. Standard infection control precautions and routine cleaning should suffice to prevent cross infection.
- Patient transfers which involve a non MRSA patient being transferred to a high risk area e.g. cardiovascular surgery, orthopaedics or neurosurgery must not knowingly be transferred with a patient colonised/infected with MRSA.
- The ambulance service and/or discharge lounge must be advised of any MRSA colonised patients being transferred .

9. Deceased Patients

There are NO special precautions required.

10. Training

- Managers must ensure that staff are trained in screening protocols and the infection prevention and control standards essential to comply with this policy.
- Staff should only carry out procedures if trained to do so.
- Training is supported by information and video on the ICT intranet site.
- Education sessions can be arranged for local initiatives or issues that arise by contacting the ICT.

11. Process for Monitoring Compliance with the Policy

11.1 Compliance with this policy is monitored within components of the IC audit programme including:

1. MRSA management
2. Hand Hygiene
3. Saving Lives High Impact Interventions
4. Isolation Practice

11.2 Incidents or non compliance reported as AIRS

11.3 During any outbreak or untoward incident, the ICT maintain information and data sufficient to provide full report as required. At the closure of any such incident such reports examine management, areas of exceptional practice, those deficiencies requiring attention, and action plans to carry out required change.

11.4 Reports are presented to the Infection Control Committee, Governance and Risk, and Trust Board, as outlined in the Infection control assurance framework and annual plan.

11.5 The Trust conforms with the Department of Health requirements for Mandatory Surveillance of MRSA bacteraemia.

11.6 MRSA bacteraemia are reported via the Trust Adverse Incident Reporting System and Directorates implement plans to investigate every case of MRSA bacteraemia to inform future practice.

11.7 Reporting

1. The Information Technology Department will provide data on the number of relevant elective and emergency admissions for the preceding month.
2. The Microbiology Department will provide data for the Directorates on a monthly basis identifying the number of MRSA screens undertaken in the proceeding month for those identified elective and emergency admissions. This includes those processed at Poole Hospital NHS Foundation Trust prior to elective admissions at RBCH.
3. Directorates are responsible for completing a final tally of screens to include those patients whose samples were processed outside the Trust.
4. All data will be provided to the performance team for onward reporting to the Department of Health.
5. The Infection Control Committee will review performance against the target.

13. Approval, Implementation & Review

This policy is approved by the Infection Prevention and Control Committee and will be reviewed at least 3 yearly and in line with any legislation or national directives.

The documented is a Dorset wide consensus of all primary and secondary trusts.

Implementation is facilitated by the Infection Prevention and Control Team, and supported by all staff as outlined within the Trust Policy for the Prevention and Control of Infection (2010)

14. References

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The Health and Social Care Act 2008: Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidance Available from: www.dh.gov.uk/en/Publicationsandstatistics

Screening for Meticillin-resistant *Staphylococcus aureus* (MRSA) colonisation: A strategy for NHS trusts: a summary of best practice (2006) Department of Health.

15. Associated Policies

- Trust Policy for the Prevention and Control of Infection (2010)
- IPC Policy No 2: Guidelines for Preventing Transmission of Healthcare Associated Infections by Standard and Isolation Precautions
- IPC Policy No 20: Standard Precautions
- IPC Policy No 7: Hand Hygiene for Healthcare Workers
- Prevention of HAI by Standard and Isolation Precautions

Consultation

<p>Those listed opposite have been consulted and comments/actions incorporated as required.</p> <p>(Author to ensure that relevant individuals/groups have been involved in consultation as required prior to this document being submitted for approval)</p>	<p>List Groups and/or Individuals Consulted</p> <p>Infection Prevention and Control Committee Trust Management Board Dorset Infection Control Forum Policies and Procedures Committee Infection Prevention and Control Team Barry Weston, Microbiology Laboratory Manager.</p>
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Appendix A

MRSA Emergency (non elective) Admission Exclusions

The following patients are excluded from the requirement for the Trust to screen emergency / non elective patients for MRSA:

1. Urgent clinical treatment required – where urgent clinical treatment is required, this should take priority. If this patient is discharged or transferred out of the hospital within 8 hours they will be excluded.
2. End of life care patients – patients on the Liverpool Care Pathway and/or who die within 8 hours of admission to the hospital will be excluded.
3. End of life care patients admitted to Macmillan Unit.
4. Patients admitted for and to urgent care assessment areas (e.g. ED, CDU, SAU, Emergency Cath Lab) who are discharged within 8 hours.
5. Patients who are admitted or are 'attenders' for diagnosis or a procedure where they are discharged within 8 hours (e.g. catheter insertion/removal).
6. RBH maternity admissions¹.

¹ RBH Maternity Unit does not admit 'high risk' patients and therefore, all patients are excluded, except those patients who will be admitted for an elective caesarean at PHT who are swabbed as a matter of routine.

Appendix B Criteria for screening elective in-patient and day case patients

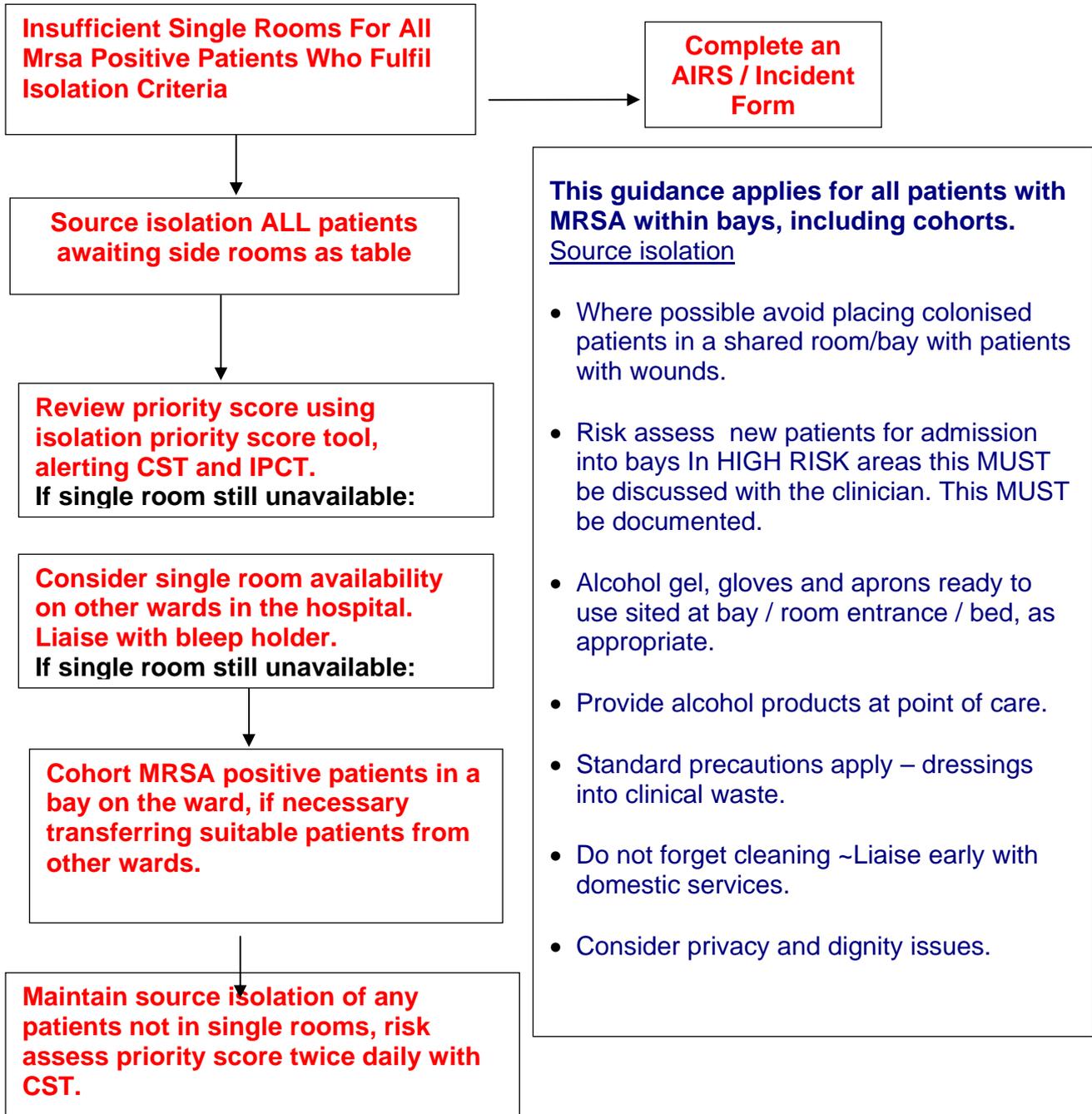
Specialty	Admission type	Inclusion	Exclusion
Surgery	In-patient	All procedures	None
	Day case	All procedures other than exclusions	Ophthalmology
			Dental
			Termination of Pregnancy
			Endoscopy
			Carpel Tunnel and other minor hand surgery
			Joint Injections
			Pain management
Dental			
Medicine	In-patient	All procedures	None
	Day Case	All procedures other than exclusions	Minor dermatology e.g. Warts/liquid Nitrogen
Oncology	In-patient	All procedures	Palliative Care
	Day Case	All procedures other than exclusions	Palliative Care
Paediatrics/ NICU	In-patient	High risk patients (1)	
	Day case	High risk patients (1)	
Obstetrics	In-patient	Caesarean section	
		High risk women (1)	

(1) High risk includes those admitted from other health care settings, previously MRSA positive and individual determinations made by the treating Consultant.

APPENDIX D MANAGING MRSA IN HOSPITAL SETTINGS

RISK ASSESSMENT

Supplementary Plan - if sideroom not available if required high and medium risk areas



N.B. Once a patient has been identified as MRSA positive, a full decolonisation regime should be commenced without further screening unless this is preceded by two recent consecutive attempts – seek advice from the ICT .

APPENDIX D GLOSSARY OF TERMS

Colonisation with MRSA: the presence and multiplication of MRSA at a body site without tissue invasion or damage. A person who harbours MRSA with no overt expression of clinical disease, but who is a potential source of infection. Recognised carrier sites for MRSA include the nose and throat and certain skin sites, such as perineum, groin and axilla. The carriage of MRSA can be transient, intermittent or of long duration (chronic).

Cohort nursing of patients with MRSA: a group of patients with MRSA who are separated from patients who do not harbour MRSA in a geographically distinct area or with physical separation in the same room. Isolation in separate rooms is preferable to cohort nursing. Ideally, the same nursing staff should provide daily care for the same cohort for the duration of the isolation.

Current MRSA Screen A negative MRSA screen result taken from a patient with no history of MRSA, within the preceding three month period prior to admission and without healthcare intervention within that time.

A current screen of a patient with MRSA history is considered to be one that has been completed no more than 4 weeks previously, without further antibiotic challenges and/or hospital admissions.

Epidemiology of MRSA: the study of the distribution and determinants of MRSA infection and/ or colonisation in specific populations with special reference to the reservoirs, sources, routines of transmission and portals of entry for MRSA.

MRSA screening: the sampling and culture of sites, in addition to skin lesions and the nose, that are associated with carriage of MRSA (see 'Carrier of MRSA').

Incidence: the number of new cases of MRSA infection and/or colonisation in a defined population within a specific period of time.

Index case of MRSA: the first case in an outbreak of MRSA. In hospital, for example, this is usually taken to be the same as the first case in a defined group to come to the attention of the investigators.

Infection Control and Decontamination Committee (IC&DC): this normally consists of a chairperson, the ICD, ICN(s), the Consultant in Communicable Disease Control, Occupational Health Physician or Nurse, clinician representatives and the Chief Executive or their representative. Other members may be co-opted as appropriate, for example engineer, pharmacist etc. The ICC is responsible to the hospital Chief Executive and provides specialist advice, formulates and monitors the implementation of policies, and determines and monitors the progress of the annual infection control programme.

Infection Control Team (ICT): designated staff responsible for day to day hospital infection control activity. It comprises the Infection Control Doctor (ICD), who is normally a Consultant Medical Microbiologist, a Consultant Medical Microbiologist if the ICD is from another speciality and Infection Control Nurse(s) (ICN). It has direct access to the hospital or PCT Chief Executive or their representative and is responsible to the Infection Control/Decontamination Committee.

Infection with MRSA: the entry and multiplication of MRSA in the tissues of the host where they cause tissue damage.

Isolation of patient with MRSA: separation of patients with MRSA (in an individual room) from others in order to prevent or limit the direct or indirect transmission of MRSA to other people who are susceptible.

Isolation unit (or room): single room or unit with hand washing facilities (toilet facilities is also preferable). The air supply should be under negative pressure, or at least in balance, to the area outside the room.

Outbreak of MRSA: this is used interchangeably with 'epidemic' of MRSA.

Phage-type MRSA: MRSA and other staphylococci can be divided into distinct strains or types by testing their susceptibility to bacterial viruses or 'phages' in the laboratory. Certain phage-types of MRSA show characteristic patterns of spread and occur more commonly in distinct geographical areas.

Prevalence of MRSA: the total number of people with MRSA infection or with colonisation in a defined population at one point in time ('point prevalence').

Standard source isolation: this describes procedures required for the protection of other patients and staff from infecting agents where the route of transmission is often direct contact via hands, air or dust.

Surveillance of MRSA: continuing scrutiny of all aspects of the occurrence and spread of MRSA infection and colonisation that are pertinent to effective control.