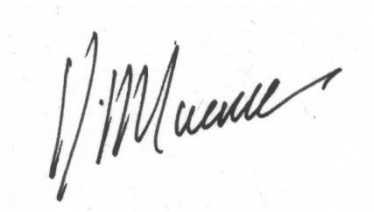
A lifetime of specialist care

Royal Brompton & Harefield NHS
NHS Foundation Trust

POLICY AND PROCEDURES FOR THE SCREENING AND MANAGEMENT OF METICILLIN RESISTANT *STAPHYLOCOCCUS AUREUS* (MRSA)

IINFECTION PREVENTION & CONTROL DEPARTMENT

Author:	Infection Prevention & Control Team
Approved by Dr Duncan Macrae, on behalf of:	Infection Control Committee
Signed by:	
Ratified by Dr Richard Grocott-Mason, on behalf of:	Governance & Quality Committee
Signed by:	
Date ratified:	November 2015
Implemented by:	Infection Prevention & Control Team
Date issued:	May 2016
Reviewed:	April 2016
Version:	9
Next review date	May 2019
Review interval:	3 years
Target audience:	All clinical staff.

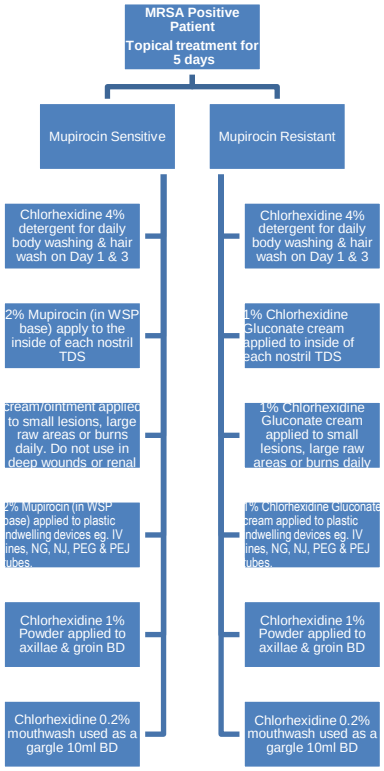
MRSA MANAGEMENT SUMMARY SHEET

SCREENING

- All patients should have a **routine MRSA screen taken pre-admission if within six week of admission**.
- Routine screen must be taken **within 24 hours** of admission.
- Screen to include: Nose, Throat, Axilla, Groins, Umbilicus in infants under one year and any wounds or manipulated sites, urine if catherised, sputum if productive.
- **Always use swab moistened with sterile saline/water for MRSA screening.**

MANAGEMENT OF MRSA POSITIVE IN-PATIENTS

- Carry out a routine screen to assess carriage.
- Source isolate patient in a side room with ensuite bathroom where possible.
- Gloves and aprons must be worn for direct patient care.
- If no room available contact the IPCT for advice.
- Once patient moved terminally clean bed space using Chlorclean.
- Isolation room to be cleaned x2 daily using Chlorclean.
- Screen patient contacts
- Where applicable commence treatment protocol for 5 days as per chart below and prescribe the green boxes
- Seek advice from the microbiologist for systemic treatment or infected lesions
- If Mupirocin sensitive but not eradicated after 2 courses of treatment use Mupirocin resistant protocol.



- Rescreen patient a minimum of 72 hours after treatment stopped
- If screen result is negative proceed to obtain 2nd and 3rd screens.
- If screen is still positive consider recommencing treatment protocol (no more than 2 attempts)
- If a patient remains positive please discuss with the IPCT before recommencing a protocol.
- Continue source isolation until 3 sets of screens are obtained.

CONTENTS

1. DOCUMENT CONTROL

1.1 History of Document

Version	Date	Amended History
9	May 2016	
8	December 2015	
7.1	January 2012	
7.0	November 2010	

1.1.2 *Consultation* – This document has been reviewed locally and published on the Trust's Policy Consultation page of the Intranet
1.1.3 *Equality Impact Assessment*– The document has been reviewed against the Trust Single Equalities Scheme and the following points are made:
1.1.4 Access for the visually impaired: this document can be made available on request in a variety of formats. Please contact the Communications Team.
1.1.5 There are no identified Human Rights issues arising from this document (Information Governance Policy v2, July 2015).

2. INTRODUCTION

This policy describes the Trust mechanism for the identification (including screening) and appropriate management (including treatment) of patients and staff who have MRSA.

This policy is designed to minimise healthcare associated infection risks to our patients, to facilitate the work of the hospital and prevent widespread closure of wards. These measures will allow us to fulfill our contractual obligations under the Health and Social Care Act 2008 and minimise the medico-legal implications for the Trust.

3. DEFINITIONS

3.1 MRSA

Meticillin Resistant *Staphylococcus aureus* (commonly known as 'MRSA') is a variety of *Staphylococcus aureus* (Staph aureus) bacterium that is resistant to the antibiotic Meticillin.

Staphylococcus aureus are gram +ve cocci which are commonly carried harmlessly on the skin and in the nose or groin of healthy individuals, and are estimated to occur in 30-70% of the population. MRSA can also colonise or infect damaged skin sites e.g. wounds, pressure sores, cannula sites or abnormal skin e.g. eczema. In addition, it may cause more serious infections such as bacteraemia, pneumonia, osteomyelitis and endocarditis.

3.2 Colonisation

- Colonisation is the harmless carriage of organisms, i.e. they reside in the nose or on some other skin site, without causing apparent trouble.

- Infection results in adverse effects to the body usually due to damaged skin sites e.g. wounds, pressure sores, cannula sites or abnormal skin e.g. eczema.

A key characteristic of the organism is that it is able to spread easily from these sites to other patients and to staff. It also adheres to soft furnishings and inanimate surroundings.

3.3 Transmission and Carriage

3.3.1 MRSA can be spread via the following routes:

- **Hands**: Transient hand carriage by healthcare workers is the most likely route of spread from patient to patient.
- **Clothing**: This may become contaminated especially if damp.
- **Skin conditions**: For example eczema, dermatitis, psoriasis or cuts and abrasions on staff and patients may harbour the organism which may consequently spread to others.

4. RELATED TRUST POLICIES

Disinfection Policy
Hand Hygiene Policy
Policy & Procedure for Surveillance & Audit
Policy & Procedure for the Control of an Outbreak of Infection
Policy & Procedure for the Safe Management of Linen and Laundry
Policy & Procedure for Source Isolation
Policy & Procedure for Standard Precautions (SIPCPs) and Personal Protective Equipment (PPE) for use in Healthcare Policy
Policy for Decontamination of Equipment Used In Direct Patient Care
Dress Code Policy
Management of Health Care Workers with Symptoms of Infection, Actual Infectious Disease and Following Exposure to Infectious Disease
Policy for Discharge of Adult and Paediatric Patients from Hospital

5. DUTIES

It is the responsibility of all members of staff involved in patient care to ensure that this policy is adhered to.

Any difficulties in implementing this policy must be discussed with the Infection Prevention and Control Team (IPCT), in order that a collaborative risk assessment may be made and alternative arrangements agreed as necessary.

6. TARGETS AND REPORTING

The Trust's aim is to have **no avoidable cases of MRSA infection**.

In line with Department of Health (DH) policy to reduce MRSA bacteraemia, the Trust is set a target each year for a maximum number of tolerated MRSA bacteraemia cases.

All cases of MRSA bacteraemia are subject to a Post Infection Review (PIR) which is submitted to NHS London and Commissioners, and reviewed at the Trust Infection Control Committee and Trust Board. MRSA bacteraemia cases are also reported on the Mandatory Enhanced Surveillance System.

Reports of any outbreak with MRSA are sent to the Trust Clinical Governance Committee, Infection Control Committee and the Trust Board.

The Trust is also set an additional target by Monitor that 100% of elective admissions must be screened for MRSA.

7. MANAGEMENT OF MRSA POSITIVE IN-PATIENTS

7.1 MRSA Screening

7.1.1 When to Screen

All elective patients are required to have a preadmission screen. This is ideally taken at six weeks prior to admission, but may be acceptable up to 18 weeks prior to, or within 24 hours of admission where otherwise unable to obtain.

All patients must have a screen taken on admission in addition to any pre-assessment screening. This includes all emergency and transfers.

Wherever possible results should be available prior to admission. In particular a result should be known at the point that a patient is sent for surgery or invasive intervention. If there is no result available, the patient must be risk assessed for likelihood of MRSA carriage and appropriate MRSA antimicrobial prophylaxis must be considered.

7.1.2 What to Screen

A 'routine screen' will always include as standard:

- **Nose** (use one swab to sample both sites)
- **Throat** swab or **Sputum** specimen (if productive)
- **Axilla** (use one swab to sample both sites)
- **Groins** (use one swab to sample both sites)

In some areas of the Trust where patients are admitted frequently (every few weeks), then it may be acceptable to reduce the screening. This should be locally agreed with the IPCT.

Please note: All skin site will reported as pooled result. Samples labeled for MRSA testing will only be tested for MRSA.

In addition the following may be added as appropriate:

- Umbilical swab in all infants under the age of one
- Post-operative wounds
- Intra-vascular catheter sites

- Any break in the skin surface, including minor/recently healed wounds and drain sites
- Lesions of eczema and psoriasis
- Sputum from expectorating patients (this should be sent for routine microscopy, culture and sensitivity testing).
- Tracheostomy site
- Urine from catheterised patients or from patients with urinary symptoms (this should be sent for routine microscopy, culture and sensitivity testing)
- Peg and jejunostomy insertion sites.
- Drain fluids.

The following samples may also be considered if clinically indicated on the advice of the IPCT:

- Faeces
- Vaginal swab

Please note:
All clinical samples should be requested for culture and sensitivity (C&S) as well as MRSA.

7.1.3 Method of Screening- Please see appendix 1SOP: How should the screening swabs be taken?

7.1.4 Frequency of Screening

The need for further screening will be determined by clinical need but includes the following scenarios:

- Critical care (AICU/ITU/PICU) patients once weekly.
- All patients who are transferred from critical care are to be screened on arrival on the receiving ward.
- Patients who remain in hospital for longer than a month should be screened monthly.
- Patients due to transfer to another healthcare provider should be screened 3 days prior to anticipated transfer.
- If a patient is discovered to be MRSA positive in one site, a full MRSA screen should be obtained as soon as possible. This must be recorded in the patient's nursing and medical records.
- Non-positive patients on assessment for transplantation, and six monthly thereafter until transplantation. This will be carried out under the direction of the Transplant coordinators.
- Patients with a Ventricular Assisted Device (VAD) in situ are to be screened monthly whilst inpatients.
- After topical and/or systemic treatment to establish clearance (please see section 11).
- Contact Screening as directed by the Infection Prevention & Control Team.

8. SOURCE ISOLATION

8.1 In-patients

Please refer to source isolation policy and Standard precaution and PPE in healthcare policy.

- All in-patients who are identified as being MRSA positive are to be placed in source isolation. If single room source isolation is not possible due to a lack of facilities or the patient's condition, alternative patient management must be discussed with the Infection Prevention and Control Team. The Integrated pathway should be commenced and the MRSA patient leaflet should be given.

- Once the patient has been moved into isolation the bed space must be terminally cleaned. Please refer to the procedure for 'Cleaning of source isolation rooms' for guidance. The domestic team must be contacted as soon as possible to arrange the terminal clean.

- On completion of cleaning the bed may be used immediately.

- Patients' notes will be marked with an identifying alert sticker stating that the patient is MRSA positive. This will be carried out by the IPCT, medical records or ward staff. An electronic tag will also be placed on PAS.

- Please refer to the Isolation Policy for further guidance.

- All staff are reminded of the importance of good **hand hygiene** and appropriate use of **gloves and aprons**.

8.2 Visitors to MRSA positive patients

When visiting MRSA positive patients:

- There is no need for visitors to wear gloves/and or aprons unless they are directly involved with patient care.
- If visiting other patients in the hospital, visitors should be encouraged see these people first and visit the MRSA patient last.
- Visitors should be asked to decontaminate their hands upon entering the ward or patients room/bay and when leaving after visiting.
- Visitors should not sit on the patients bed
- It is routinely perfectly safe for anyone to visit an MRSA positive patient; if visitors are immunosuppressed in anyway or have open wounds/exiting health problems they should see the nurse in charge and advice can be sought from Infection Control.
- Visitors should not be informed of the patients diagnosis without patient consent. They should only be informed of isolation precautions to be taken.

9. PATIENT MOVEMENT

9.1 Within the ward

- Patients placed in source isolation should remain within their room, with the door closed as far as is reasonably practical.

- Any patient movement (outside the isolation room) other than to diagnostic/ therapeutic departments must be in consultation with the Infection Prevention and Control Team.

- MRSA is not a reason to stop a patient's rehabilitation; however consideration must be given to using quiet or non-populated areas wherever possible.

- A receiving department MUST be notified in advance if the patient has MRSA, so staff can make the necessary preparations.

9.2 Transfer to another ward (Intra-hospital Transfer)

Before transfer of a patient from one ward to another, the patient should ideally :

- bath/shower and, where possible, wash their hair with an antiseptic detergent (4% Chlorhexidine in detergent).

- put on clean clothing

- be transferred to a clean bed with clean linen. The patient's original bed and linen should be left on the ward.

9.3 Transport procedure (Portering)

- Lesions should be occluded whenever possible with a semi-impermeable dressing e.g. Opsite /Tegaderm.

- If contact is anticipated, attendants should wear non-sterile gloves and disposable plastic aprons on leaving the isolation ward or side-room with the patient. **NB. Porters pushing a wheelchair DO NOT need to wear apron and gloves**.

- Aprons and gloves should be removed when contact with the patient is complete and disposed of as clinical waste.

- Gloves should be only be worn if staff transporting the patient have skin abrasions, or if specifically instructed to do so by the nurse in charge or by the Infection Prevention and Control Team.

- After dealing with the patient and cleaning the trolley or chair, staff should decontaminate their hands.

- The trolley or chair should be cleaned after use by the patient and before being used for another patient. All linen should be dealt with according to Trust Policy for the Management of Linen.

9.4 Surgical operations and other invasive procedures

- Theatre Recovery and Cath Labs must be given notice that a patient has MRSA in order that they have adequate time to make suitable preparations.

- Patient must be placed last on the theatre/catheter list /session wherever possible.

- Shower/bathe the patient in an antiseptic and detergent (e.g. Chlorhexidine 4% in detergent) on the night prior to operation and again on the day of surgery (the detergent should remain in contact with the skin for three minutes before being rinsed off). This in addition to existing prescribed protocol,

- Cover any affected lesion with a semi-permeable dressing. e.g Op-site or Tegaderm.

- For known MRSA positive patients prophylaxis with Vancomycin or Teicoplanin (in addition to Cefuroxime) may be prescribed and given to cover surgical/invasive procedures, in consultation with the Medical Microbiologist

- If the MRSA status of the patient is unknown prior to commencement of surgery, consideration must be given by the senior Clinician as to giving of additional prophylaxis.

- Patients should be allowed to recover after surgery in the operating theatre or an area not occupied by other patients to avoid possible contamination of the usual recovery area.

- Theatre/ Cath labs surfaces in close contact or near the patient, such as the operating table or instrument trolley, should be disinfected using 0.1% NaDcc (1,000ppm chlorine solution e.g. Chlorclean).

- The Theatre should not be used for at least half an hour after the end of the case to facilitate thorough cleaning and air changes.

- Equipment with an integral fan e.g. endoscope light source, does not pose a cross-infection risk. It may be re-used once the outside casing and all dials have been cleaned.

9.5 Out-patient, Diagnostic and Therapeutic Departments

9.5.1 Visits by MRSA patients to other departments should be kept to a minimum. If this is necessary, either for investigation or treatment, prior arrangements should be made with senior staff of the receiving department, so that control of infection measures for that department can be implemented. These should include:

- Dealing with these patients at the end of the working session if possible.

- The patient should spend the minimum time in the department, being sent for when the department is ready and not left in a waiting area with other patients.

- Staff coming into direct contact with the patient should wear disposable gloves and aprons.

- Equipment and the number of staff attending should be kept to a minimum.

- When finished, the area should be terminally cleaned and any surfaces with which the patient has had direct contact should be cleaned with Chlorclean.

9.5.2 It is the responsibility of the referring ward/department to inform the receiving department of the patient's MRSA status.

9.6 Discharge of Patients

- The nurse in charge must inform the Infection Prevention and Control Team of the patient's discharge.

- Colonisation with MRSA is not in itself an indication to remain in hospital.

- MRSA patients should be discharged promptly from hospital when their clinical condition allows.

- The General Practitioner and other healthcare agencies involved in the patient's care must be informed of the patients MRSA status and any treatments given, as part of the discharge summary.

- If a treatment course, or follow up swabs still need to be completed, or if found to be positive post discharge, a GP letter will be sent by a member of the IPCT.

- If the patient is discharged to a nursing or convalescent home, the medical and nursing staff (at the receiving unit) should be informed in advance by the patient's clinician or ward nurse. Carriage of MRSA is not a contraindication to the transfer of a patient to a nursing or convalescent home.

9.7 Transfer to another hospital/ health care facility

- Identification of infected or colonised patients is the responsibility of the transferring hospital.

- As part of transfer planning an MRSA screen should be obtained in order to provide the receiving unit with up to date results.

- Before transfer, the clinical team responsible for the patient must inform the ward and clinical team at the receiving hospital/facility of the patient's complete MRSA status and treatment.

- The transferring ward must also inform the Trust's IPCT who will notify the receiving Trust's IPCT. This must be documented in the patient's medical notes.

- Please refer to the Policy for Discharge of Adult and Paediatric Patients from Hospital for further information, and details of the inter-healthcare transfer form, which must also be completed for all hospital transfers.

9.8 Ambulance transportation (including mini-bus at RBH)

- The ambulance service should be notified in advance by the ward staff that the patient is MRSA positive.

- Most MRSA patients may be transported with other non-MRSA positive patients in the same ambulance without any special precautions, other than changing the bedding used by the patient.

- However, if transport of a potentially heavy disperser is necessary such as a patient with a discharging lesion which cannot be enclosed by an impermeable dressing, or widespread colonised skin lesions, it may be necessary to transport this patient alone. Ambulance staff handling the patient may need to wear a plastic apron and gloves and to use an alcoholic hand rub.

- Surfaces in contact with the patient should be wiped down with detergent wipes. No extra cleaning of the ambulance is usually required after transporting.

- No special precautions are required by voluntary cars booked through the ambulance service.

- Transplant patients and patients with Cystic Fibrosis must not be transported in the same ambulance as a known MRSA positive patient.

10. TREATMENT PROTOCOL FOR MRSA POSITIVE PATIENTS

10.1Treatment Protocol

- If applicable the Treatment Protocol should be commenced as per Appendix 1 for five days.

- A standard treatment protocol will include a Chlorhexidine body wash and nasal ointment, Chlorhexidine 1% (CX) powder to axilla and groins and Chlorhexidine 0.2% mouthwash. If the patient has been discharged post result being known, the ward staff should send a routine proforma GP letter if the patient commenced protocol within the hospital.

- Where a patient is 'sputum positive', a topical protocol may not be applicable. If the patient is sputum positive contact the Consultant Microbiologist or a member of the IPCT for advice.

- Treatment protocols should not be extended or repeated without prior discussion with a member of the Infection Prevention and Control Team.

10.2 Mupirocin Sensitivity

- **2% Mupirocin** (in white soft paraffin base) nasal ointment. Apply a small amount with a gloved fingertip to the inner surface of each nostril, three times daily.

- If Mupirocin resistant or Mupirocin sensitive, but not eradicated after two courses of treatment, then 1% Chlorhexidine gluconate cream can be substituted.

10.3 Antiseptic Washes

- An **antiseptic wash** solution such as 4% Chlorhexidine in detergent should be used for all daily body washing procedures and for bed bathing. The skin should be moistened and the antiseptic in detergent applied thoroughly to all areas (with a disposable patient wipe) before rinsing. Special attention should be paid to axillae, groins, perineum and buttocks.

- If the patient has dry or sensitive skin, seek advice from the IPCT before using an antiseptic wash. Possible alternative products include Octenisan, Stellisept or Prontaderm.

- The hair should be washed on days one and three of the protocol, using the antiseptic wash solution.

- **Chlorhexidine 1% powder** can be applied to axilla and groins twice a day.

- **Chlorhexidine 0.2% mouthwash**, if denture wearer or throat positive may also be used as a gargle 10ml twice a day.

- Bed linen and patient's towels and clothing should be changed daily.

- Bar soap must be discarded on identification of the patient's MRSA positive result. Liquid soaps are recommended for use; however a fresh bar may be used after treatment completion if preferred.

- Hair brushes/combs must be washed in hot soapy water and dried before and after treatment.

- Wet shaving: use disposable razor only, do not use shaving brush or shaving soap.

- Electric shaving: the razor head must be dismantled and cleaned in accordance with the Trust Policy on Decontamination of Equipment Used in Direct Patient Care.

10.4 Lesions and raw areas

- Small lesions and large raw areas or burns e.g. eczema or superficial pressure sores can be treated daily with 2% Mupirocin skin cream/ointment or 1% Chlorhexidine gluconate cream (according to sensitivities). Do not use Mupirocin or other topical creams for deep wounds, where large quantities of PEG (polyethylene glycol) may be absorbed or in moderate to severe renal impairment.

- Infected lesions should be treated systemically, if clinically indicated (advice to be sought from the medical microbiologist).

- Plastic in-dwelling devices e.g. IV lines, jejunostomy tubes etc, may be treated using 2% Mupirocin (in white soft paraffin base), nasal ointment or 1% Chlorhexidine gluconate cream (according to sensitivities).

- Leave **three days** after completing protocol before re-screening all sites.

10.5 Throat colonisation

- Throat colonisation may be treated systemically in addition to the skin washing protocol for five days only. This should be undertaken only on the advice of the Consultant Microbiologist.

10.6 Sputum colonisation

- If eradication of MRSA from sputum is indicated, advice should be sought from the Consultant Microbiologist / Infection Control Doctor. Eradication can be difficult and will usually involve systemic antibiotics. Topical treatments are largely ineffective in this situation.

11. CLEARANCE

11.1 Clearance screening

- On completion of all topical and systemic treatment the patient may be re-screened to establish whether eradication has been effective.
- Re-screening can only be undertaken when all topical treatments and systemic antibiotics have been stopped for at least 72 hours.

- Where a patient has been receiving systemic antibiotics, please contact the Consultant Microbiologist for advice.

- A full routine screen as detailed in Section 7.1.2 above must be completed.

- If screen result is negative then do a second re-screen.

- If screen is still positive consider recommencing treatment protocol (no more than two attempts).

- If negative carry out third screen (if needed this can be done the day after the second screen if needed).

- Continue source isolation until three full sets of negative screens are obtained.

- The original positive site MUST be included in the screening.

- **Only when negative results from all three sets have been confirmed (and patient on no topical or systemic antimicrobials), may the patient come out of isolation.**

- If a patient remains positive after treatment, please discuss with the IPCT for further advice.

- Re-screen in-patients once weekly, for one month following clearance.

11.2 Establishing clearance on previous positive patients

- For patients who have been positive on a previous admission, there must be copies of three full sets of negative screen results in the notes. These must, if necessary, be faxed from the referring hospital or GP.

- Please contact the Infection Prevention and Control Team if it is needed to review history.

- If there is evidence of three sets of screens available, the patient should be isolated on admission, and a full screen obtained to check clearance has been maintained.

- If three sets are not available the patient must remain in isolation until three sets of screens have been obtained and are all negative.

12. MANAGEMENT OF MRSA POSITIVE STAFF

12.1 Role of Occupational Health

On receipt of a positive swab result Occupational Health will inform the member of staff.

The member of staff will hand over their patient care/case load as a matter of priority and attend the Occupational Health Department immediately for further assessment.

12.2 Screening of Staff

Staff screening will usually consist of:

- Nose

- Groins
- Following assessment, any break in the skin surface including minor/recently healed wounds, eczema or psoriasis. This is particularly relevant for hands and arms.

12.3 Treatment

- Treatment will be as administered as for patient management, depending on Mupirocin sensitivity and the extent of colonisation/infection.

- The health care worker may be asked to refrain from work for the first 48 hours of treatment as directed by Occupational Health.

12.4 Return to work

- If colonised in the nose only the health care worker may then return to patient contact and continue with treatment.

- If colonised elsewhere or Mupirocin resistant, advice may be sought from the IPCT who will make a risk assessment based on the swab results and the type of work undertaken. If necessary staff may be redeployed to non-clinical duties at the discretion of their manager. See Policy on the Management of Health Care Workers with symptoms of Infection and Actual Infectious Diseases.

12.5 Clearance

- On completion of all topical and systemic treatment, a period of three full days must elapse before re-screening. Staff must attend Occupational Health for re-screening to establish clearance.

- Staff may be asked to have screens performed every six months to establish that clearance is maintained.

13. SURVEILLANCE

13.1 Mandatory Surveillance

The Trust participates in the Department of Health (DH) mandatory surveillance of MRSA and *Staphylococcus aureus* bacteraemias. Data is entered onto the Health Protection Agency's Healthcare Associated Infection Data Capture System (MESS) by the Director of Infection Prevention and Control (DIPC) in real time for MRSA bacteraemias. The Chief Executive or his deputy signs this off monthly as required by the DH. Data on *Staphylococcus aureus* bacteraemias (MSSA) is entered quarterly by the DIPC.

13.2 Monitoring

All cases of MRSA are monitored by the Infection Prevention and Control Team as part of alert organism surveillance. All isolates are coded to determine likely origin and aid recognition of an outbreak, as well as promoting good management of each case. All cases of MRSA bacteraemia are subject to a Post Infection Review (PIR) within five days of

the result being known. Findings and action plans of the PIR are communicated to the all key stakeholders.

Case records are maintained by the Infection Prevention and Control Team using the ICNet software.

For further information refer to the Policy and Procedure for Surveillance and Audit.

14. AUDITING EFFECTIVENESS

In line with the Department of Health's requirements the Trust is periodically required to provide monthly returns detailing the number of sets of swabs and the number of elective admissions in order to demonstrate that the ratio swabs to elective admissions is greater than one, providing assurance that elective admissions are being screened for MRSA. This information is scrutinised by commissioners.

Information on MRSA incidence and screening is also reported to the Trust Board via the Trust Board Performance Report.

15. REFERENCES

Guidance on the reporting and monitoring arrangement and post infection review process for MRSA bloodstream infections from April 2014 (version 2).

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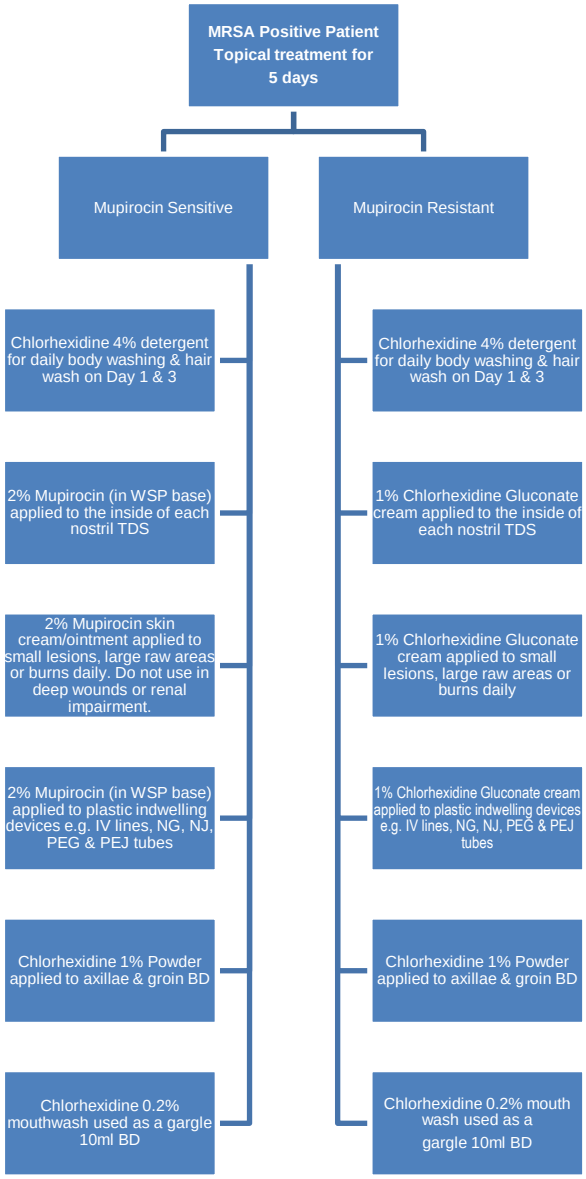
Systematic review of the evidence for interventions for the prevention and control of meticillin-resistant Staphylococcus aureus (1996–2004): Report to the Joint MRSA Working Party (Subgroup A) *Journal of Hospital Infection*, Volume 63, Supplement 1, May 2006, Pages S45-S70. H.P. Loveday, C.M. Pellowe, S.R.L.J. Jones and R.J. Pratt

APPENDIX 1: MRSA PRESCRIBING FLOW CHART

1. Please follow the flow chart as compiled by Pharmacy, and prescribe the green boxes.
2. This is a summary; please consult the Policy and Procedures for the Screening and Management of MRSA for more complete advice.
3. Seek advice from the Microbiologist for systemic treatment or infected lesions.
4. If patient is Mupirocin sensitive,e but MRSA is not eradicated after two courses of treatment, use Mupirocin resistant Protocol.
5. Re-screen all sites after three days of completing protocol.



APPENDIX 2: MRSA INTEGRATED CARE PATHWAYS

Royal Brompton & Harefield NHS
NHS Foundation Trust

INTEGRATED CARE PATHWAY

TITLE: ***MRSA* Integrated Care Pathway (for patients already on an ICP)**

History – To be completed by Infection Control Nurse (ICN) / Link Nurse		**Date**
1	Date the patient was identified as being colonised. Identify site(s) of colonisation	
2	Is the patient known to have had *MRSA* in the past	
	ICN/ Link Nurse Initials Date: Time:	

Screening					Date and Time	Signature
3	*MRSA* screen has been taken, labelled as per policy and submitted to microbiology					
Initial Screening and Results						
	Site of Swab	Date Taken	Result	Date of Result		Signature
4	Nose Throat Groin/perineum Axilla					
5	Urine (if catheter in situ)					
6	Wound (state site)					
7	IVI					
8	Other (state site)					
Isolation						**Signature**
10	Patient isolated in a single room and barrier nursing commenced (see Source Isolation Policy)					Date…….
11	Ensure PPE (personal protective equipment) is available ie. Gloves, aprons, hand decontamination products (see Hand Hygiene Policy)					
12	The patient/relatives informed of the isolation measures and the rationale e.g. Hand hygiene before and after visiting					
14	Patient/relatives have questions or concerns? if yes specify in patients own words on variance sheet					
15	Patient has access to own toilet or commode with access to separate hand hygiene facilities?					
16	Source isolation notice displayed at the entrance to the room					
Cleaning						
17	Domestic team informed of the isolation and the need to clean daily as per policy					
Treatment						
18	Clinical Team responsible for care decisions has been informed of the patients positive *MRSA* status					

19	Eradication protocol commenced (see *MRSA* policy)	
20	Is the patients *MRSA* resistant to Mupirocin Y/N	Date……
21	Any key risk factors (e.g due for procedure, flaxy skin, non-compliance) (Y/N) please note on variance sheet	
22	Other *MRSA* medications/treatments prescribed by Doctor (Y/N) please note on variance sheet.	
	Skin and nasal decolonisation treatment to be given prescribed NB nasal Mupirocin 2% should not be used for more than 10 days in total.	
	Has the Tissue Viability Nurse been contacted for input into colonised or infected wounds Y/N If Yes please specify on variance sheet	
Treatment / Decolonisation Checklist		
	Treatment protocol given as prescribed	
	Start date	
	Anticipated end date Actual end date	
	Rescreen date (minimum 72 hours after discontinuation)	
	Protocol treatment given (tick all that apply) Mupirocin nasal cream □ chlorhexidine mouthwash □ Chlorhexidine powder □ Other □ Antibiotics (please specify)……..	
If patient is still positive after re-screening, carry out a second treatment.		
	Start date	
	Actual end date	
	Rescreen date (minimum 72 hours after discontinuation)	
	Protocol treatment given (tick all that apply) Mupirocin nasal cream □ chlorhexidine mouthwash □ Chlorhexidine powder □ Other □ Antibiotics (please specify)……..	

Rescreening Results

	Site of Swab	Date Taken	Result	Date of Result	Signature
1st Screen	Nose Throat Groin/perineum Axilla Other				
	Site of Swab	Date Taken	Result	Date of Result	Signature
2nd screen	Nose Throat Groin/perineum Axilla Other				
	Site of Swab	Date Taken	Result	Date of Result	Signature
3rd screen	Nose Throat Groin/perineum Axilla Other				

If patient is negative on 3 consecutive occasions as advised by the Infection Control Nurses the patient can usually be de-isolated.		
Negative *MRSA* screen		
25	If patient has had 3 consecutive negative screens, verify that Infection Control Team happy to de-isolate	Date……
26	Negative results and changes to care are explained to the patient by ward team	
27	Does the patient have any questions (if yes, specify in own words on variance sheet)	
28	Isolation / barrier nursing is discontinued on (date)	
Discharge		
31	Current *MRSA* status (if positive detail where)	
32	Receiving organisation informed of *MRSA* status prior to discharge of patient	□ Other ward □ Other Healthcare Facility
33	*MRSA* status indicated on	□ Discharge summary □ GP letter?
34	Domestic team informed of need to clean the isolation room via the domestic supervisor	
	Room cleaned to required standard and checked by Nurse before re-use.	

APPENDIX 3: SOP - HOW SHOULD THE SCREENING SWABS BE TAKEN?

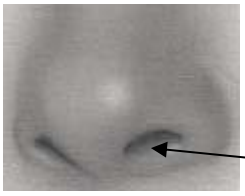
Before any swabs are taken the patient must be informed of the reason for doing the screening and verbal consent obtained.

Position the patient

- Patient is usually sitting upright
- Small children may be held on lap and infants should be lying down
- decontaminate hands
- Use a blue topped swab which should remain unopened within their sterile package until required.

- Before use, moisten swab tip (cotton wool) with either sterile sodium chloride solution or sterile water.

Nose: Nasal swabs need only be introduced into the anterior nares and rotated approximately ten times in each nostril.



This the anterior nares - there is no need to introduce the swab further into the nose

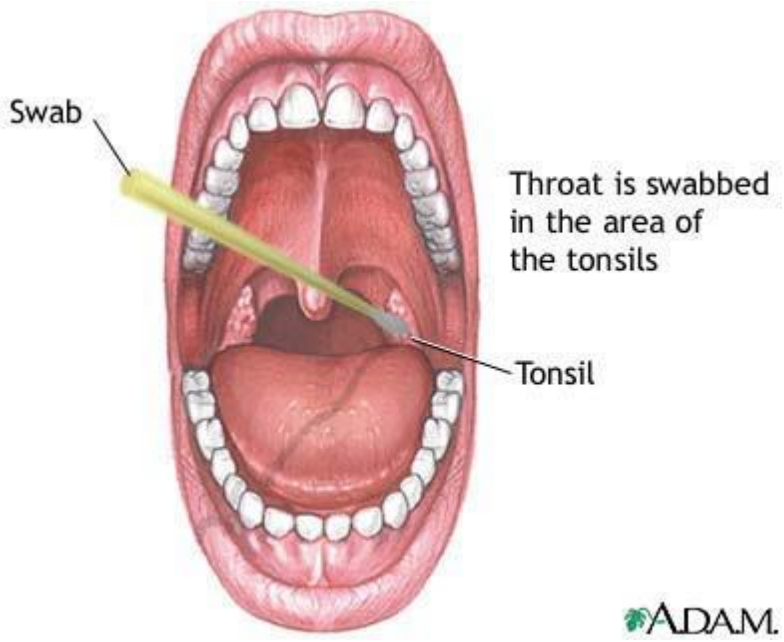
- with one swab, rotate approx 10 times around the inner surfaces of both **nostril** , ensuring contact with all surfaces inside. Please use one swab for both nostrils. Do not force the swab further into the nose as this may cause injury.

Throat: the procedure for collecting a throat swab is similar to taking a nose swab. Have patient tilt head back with their mouth wide opened
A swab of the back of the throat is taken by rotating a swab as it is moved gently back and forth across the side of the throat.

- Gently depress the tongue with the tongue depressor

- Instruct patient to breathe deeply and say "ah" which serves to lift the uvula and aids in reducing the gag reflex
- Gently depress the tongue with the tongue depressor and extend the swab between the tonsils into the posterior pharynx
- Gently and quickly sweep the swab back and forth across the side of the throat and tonsil area.
    a. Speed is essential, because the patient may gag involuntarily

    b. Be careful not to contaminate the swab by touching the tongue, inside or the cheek, or lips (if this occurs a new swab must be collected)



- Do not swab the back of the throat as this may cause the patient to retch/vomit.

Groin: if patients are able they should be invited to perform the swab themselves. With one swab, swab both the groin areas, ensuring good contact with the skin surfaces.

Axilla: With one swab, swab both armpit' areas, ensuring good contact with the skin surfaces.

Pus: where pus is present from a wound or abscess it is preferable to aspirate a sample and send in a sterile universal container rather than taking a swab.