Essex Partnership University
NHS Foundation Trust

ICPG1 Infection Prevention and Control Procedural Guidelines Section 5: Prevention and Management of Meticillin Resistant *Staphylococcus aureus* (MRSA) in EPUT Community Services and Mental Health Inpatient Services

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PROCEDURE SUMMARY
The purpose of this document is to ensure that all staff members, involved in direct patient care, are aware of their responsibility with regards to the prevention, and control of spread, of MRSA.
The Trust monitors the implementation of and compliance with this procedure in the following ways;
The responsibility for monitoring and reviewing this Policy lies with the Director responsible for Infection Prevention and Control. Randomised care bundle audit of community services, submission of screening figures on a monthly basis and accessing electronic systems will monitor compliance and implementation.

Services	Applicable	Comments
Trustwide	✓	
Essex MH&LD		
CHS		

The Director responsible for monitoring and reviewing this procedure is The Executive Chief Operating Officer

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1.0 INTRODUCTION

1.1 Introduction

These guidelines are based on national best practice guidelines for the prevention and control of MRSA infection spread within Community Services and the Mental Health inpatient environment and apply to **ICP1** - **Infection Prevention and Control Policy.** The Department of Health is committed to reducing HCAI including Meticillin resistant *Staphylococcus aureus* (MRSA). Significantly the Government considers it unacceptable for a patient to acquire an MRSA bloodstream infection (MRSA BSI – also referred to as MRSA bacteraemia) while receiving care in a healthcare setting.
It has set healthcare providers the challenge of demonstrating zero tolerance of avoidable MRSA BSI through a combination of good hygiene practices, appropriate use of antibiotics, improved techniques in the care and use of medical devices as well as adherence to best practice guidance. Essex Partnership University NHS Foundation Trust are committed to the MRSA zero tolerance ambition.

The guidelines included in this section are:

They should also be read in conjunction with:
Standard Operating Procedural guidelines for Mental Health inpatient services, South East Essex Community Services, West Essex Community Services and Bedfordshire Community Services

ICPG1 Section 2 - Standard/Universal Precautions of Infection Control
ICPG1 Section 4 - Communicable disease and Outbreak Control
Antimicrobial prescribing guidelines within the Trust Formulary

2.0 AIMS AND APPLICABILITY

2.1 The main aim of these guidelines is to identify patients who are at high risk of developing MRSA Bacterium. Our policy since 2014 looks at those at risk of infection in mental health settings.

2.2 The guidelines also aim to ensure all patients, who might benefit from treatment, receive appropriate care interventions.

2.3 All staff involved in direct patient care, both in Mental Health inpatient and Community settings will be expected to comply with these guidelines. This includes support services staff such as facilities and estates.

3.0 WHAT IS METICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA)?

3.1 **Introduction**
Staphylococcus aureus is a bacterium that is found on the skin and in the nose of 1 in 3 members of the population. Staphylococcus aureus commonly causes boils, abscesses or impetigo. It has the potential to cause serious illness, particularly in the vulnerable hospitalised patient, where it can cause serious infections such as endocarditis, pneumonia and septicaemia.

3.2 MRSA - Meticillin (formally known in the UK as methicillin) resistant *Staphylococcus aureus* (MRSA) is a strain of staphylococcus aureus which is resistant to some antibiotics normally used to treat staphylococcus aureus infection (penicillin, amoxicillin, flucloxacillin, erythromycin and cephalosporins). Therefore to effectively treat someone with MRSA infection the appropriate antibiotics must be prescribed following sensitivity testing. MRSA and Meticillin Sensitive *Staphylococcus aureus* (MSSA) cause the same range of infections, but due to antibiotic resistance, infections caused by MRSA are more difficult to treat.

3.3 The risk of acquiring an MRSA infection in the community and primary care is acknowledged as being low and is usually related to a recent hospital or nursing home admission. However with the early discharge of patients from hospital and the increase in minor surgery and invasive procedures now undertaken in primary care, there is the potential for an increase in MRSA infection in the community, if the general principles of infection prevention and control are not applied in all healthcare facilities. In addition those patients with an invasive device (e.g. indwelling urinary catheter, chronic wound/fragile

broken skin) are at a higher risk of developing a bacteraemia caused by MRSA.

4.0 RISK FACTORS

4.1 Patients at risk of MRSA carriage include:

- Patients known to have been colonised or infected with MRSA in the past
- Frequent admissions to any healthcare facility
- Direct inter-hospital transfers
- Recent admission to an area known to have a high prevalence of MRSA
- Presence of an indwelling invasive device or wound/fragile or broken skin.

5.0 COLONISATION AND INFECTION

5.1 Colonisation describes the presence of microbes on or in the body (usually nose, throat, axilla or groin) which continue to multiply but do not cause illness or symptoms requiring treatment. Some people carry MRSA for a few hours or days, others for weeks or months. Most people are not aware that they are carrying MRSA because it causes no harm to them and, there are no symptoms.

5.2 Infection describes the presence of microbes on or in the body which are causing clinical features of infection e.g. pain, pyrexia, dysuria, presence of pus, purulent sputum and require antibiotic treatment. A wound, such as a leg ulcer, may be colonised with MRSA where there is no obvious sign of infection or it may be infected with MRSA with symptoms including; redness, spreading erythema, heat, inflammation, pain and there may be a discharge (pus). Clinical infection with MRSA occurs either through the haematogenous route, this is when a patient's own bacteria causes an infection, or by cross infection from another person, usually transferred by direct contact.

5.3 In most cases where infection is present, the infections are minor and remain localised to the area of broken skin and can be treated quickly and effectively. In some circumstances infection with MRSA may be problematic particularly, in the elderly and debilitated people and in those with a lowered resistance to infection. If the MRSA gets an opportunity to enter the bloodstream e.g. via a cut, abrasion, invasive device or from other medical interventions it can cause serious infection. In these instances the organism can cause more widespread infection such as septicaemia (MRSA bacteraemia). This potentially life threatening infection is more likely to affect people who already have a serious underlying condition which has weakened the body's defence mechanism and urgent treatment is necessary.

5.4 The majority of patients identified as MRSA positive in the community and mental health inpatient settings are colonised with MRSA, rather than infected, and do not become ill or require treatment.

5.5 Re-colonisation of patients is common; therefore, it is important to target those patients who would most benefit from decolonisation.

5.6 Evidence supports the use of targeted, short term decolonisation regimes rather than long term decolonisation regimes due to the high incidence of re-colonisation and also the increased risk of resistance. However there are local variations in treatment regimens for high risk patients therefore the standard operating procedure (SOP) relevant to your location should be followed.

6.0 TRANSMISSION

6.1 MRSA can be acquired via contact with MRSA positive sites on the body or body fluids or the surrounding environment.

6.2 MRSA can survive in dry and dusty environments or on contaminated patient equipment. Primarily as MRSA has the ability to colonise patients' skin it can subsequently be dispersed into the environment when skin scales are shed. Therefore high standards of environmental cleanliness within community and mental health care settings, particularly to horizontal surfaces should be encouraged, to keep dust (and microorganisms) to a minimum.

6.3 The main route of transmission within healthcare settings is on the hands of healthcare workers which have become transiently contaminated. This is why the emphasis for preventing the spread of MRSA is strict and effective hand decontamination at the point of care.

6.4 The most important precautions to take to prevent the spread of MRSA are standard infection prevention and control precautions:

- Appropriate hand decontamination (regular hand washing/use of hand sanitiser).
- Appropriate use of personal protective equipment (PPE).
- Appropriate decontamination of reusable equipment used on or by the patient.
- Appropriate management of waste and body fluid spills.

7.0 HAND HYGIENE

7.1 Healthcare workers and visitors should wash their hands before and after care or visiting a patient. Patients should also be encouraged to wash their hands when necessary; in particular they should be advised not to touch other patients.

7.2 Hand sanitiser may be used for rapid hand disinfection as long as hands are not visibly soiled. This should be available at the bedside of all inpatient, intermediate care areas and at the point of care in all other clinical areas (i.e. personal tottle dispensers)

8.0 PERSONAL AND PROTECTIVE EQUIPMENT (PPE)

8.1 All staff must wear gloves and aprons, when carrying out patient care. Examples of this are: personal care, moving and handling patients, removing dirty linen and environmental cleaning in patient areas.

8.2 Gloves and aprons must be removed and disposed of into the appropriate waste stream and hands decontaminated when leaving the room.

9.0 SCREENING

9.1 Previous guidance from the Department of Health (DH) in England (2008) introduced mandatory screening of all elective and emergency admissions from April 2009 and December 2010, respectively. However, following a review of this guidance and its limitations, new guidance was published in 2014. This has been endorsed by the Department of Health expert advisory committee on Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) and recommends a more focused MRSA screening programme. This modified screening approach is felt to be more cost effective and is *'designed to promote a more efficient and effective method for identifying and managing high risk MRSA positive patients'* ARHAI (2014).

The guidance recommends that focused screening should be adopted in line with local risk assessments to ensure that Trusts concentrate on reducing negative patient outcomes for their own populations. The most cost effective strategy was identified to be screening on admission to high risk specialties. Significantly, Trusts are advised to implement monitoring to ensure compliance with this screening policy is adhered to (ARHAI 2014).

9.2 The EPUT IPCT has taken the decision to continue screening:

- High-risk patients (inpatient, community & mental health) in areas where the Clinical Commissioning Groups (CCG) support this approach.
- All elective admissions to inpatient areas (except for MH)
- All patients undergoing podiatric surgical procedures

9.3 In the mental health care settings the MRSA screening guidelines will continue to be based on risk assessment, rather than a universal approach.

9.4 For screening guidance community services and mental health inpatient facilities must follow the standard operating procedures (SOPs) pertaining to their specific area.

9.5 Screening of staff members is not to be undertaken unless specifically requested by the Infection Prevention & Control team or Occupational Health clinicians.

10.0 TREATMENT OF MRSA COLONISATION OR INFECTION

10.1 A risk assessment must be undertaken for all patients identified as MRSA positive following screening to determine whether treatment is required. It is the requesting practitioner's responsibility to ensure that each patient is followed up and treated appropriately. All patients known to be positive who are scheduled to undergo a surgical procedure, be admitted to an inpatient unit or intermediate/rehabilitation bed or have an invasive device present must be commenced on decolonisation therapy.

10.2 For Mental Health Services an assessment should be made according to the Admission Screening Flowchart (follow the Standard Operating Procedure for your area) regarding the need for treatment of the MRSA.

10.3 The relevant treatment guidance within the **SOP** for your area should be followed

10.4 If the patient has a systemic MRSA infection i.e. bacteraemia, the patient should be transferred to the acute setting as soon as possible. This will occur under the guidance of the attending doctor or Microbiologist and if appropriate the Infection Prevention and Control Nurse.

11.0 MRSA BACTERAEMIA (BLOOD STREAM INFECTION)

11.1 Bacteraemia occurs when bacteria (in this case MRSA) enter the bloodstream. This may occur through a wound or infection, or through a surgical procedure or injection. Bacteraemia may cause no symptoms and resolve without treatment, or it may produce fever and other symptoms of infection. In some cases, bacteraemia leads to septic shock, a potentially life-threatening condition.

11.2 Following ward notification of a MRSA bacteraemia, the IPC team should be advised, although they may already have been informed by the Clinical Commissioning Group (CCG) IPC lead nurse. A post infection review (PIR) is required and the IPC team will liaise with the operational team involved to support them in completing the PIR paperwork and attend the PIR meeting with the Service Lead.

12.0 POST INFECTION REVIEW (PIR) PROCESS

12.1 There is a requirement by NHS England to institute a Post Infection Review in all cases of MRSA bloodstream infection. The purpose of the review is to identify how the case occurred and to identify actions that will prevent similar cases occurring in the future. Additionally it forms part of the government strategy for achieving a "zero tolerance" to HCAI. The PIR replaces the previous requirement to undertake Root Cause Analysis (RCA) for MRSA BSIs.

12.2 The PIR will be conducted by a multidisciplinary clinical team that will review the bloodstream infection event and identify the factors that contributed to it.

The PIR process will:

- help identify factors that may have contributed to a MRSA BSI case
- help to identify any parts of the patient's care pathway which may have contributed to the infection, in order to prevent a similar occurrence;
- help providers of healthcare and CCGs to identify any areas of non-optimal practice that may have contributed to the MRSA BSI;
- help to identify promptly the lessons learned from the case, thereby improving practice for the future;
- Identify the organisation best placed to ensure that any lessons learnt are acted on.

12.3 The PIR process requires strong partnership working by all organisations involved in the patient's care pathway. This close collaboration will enable organisations to jointly identify and agree both the possible causes and any factors contributing to the patient's MRSA BSI.

12.4 Where an MRSA BSI is identified, the PHE Data Capture System (DCS) will automatically and provisionally assign an organisation with the responsibility for leading the PIR process. This does not necessarily assume that the organisation was responsible for the BSI, but considers that they are best placed to lead and coordinate the PIR process.

12.5 The IPCT has developed a flowchart to support the process for EPUT operational services (see Appendix 1).

13.0 CLEANING

13.1 It is vital that areas are kept tidy and clutter free to enable effective cleaning as MRSA bacteria can survive for long periods in dry, dusty environments.

13.2 During the decolonisation regime, bedding and towels should be changed daily, and linen handled as "infected linen". Patients should be encouraged to change into freshly laundered clothes daily.

13.3 In the patient's own home normal domestic cleaning routines are sufficient to reduce the number of MRSA bacteria found in the environment. Daily cleaning of toilet and bathroom areas with detergent and water is sufficient.

13.4 Patients in their own homes should be advised that their laundry should be washed at the hottest temperature suitable for the fabric, and can be washed with other household laundry. Heat labile materials (those which may be damaged at high temperatures) may be hand washed at a lower temperature. Laundered garments should be dried thoroughly before reuse. Hot air drying or ironing will help by further reducing the small number of microbes, which may still be present.

13.5 Any loaned equipment for use within the home should be designated 'single patient use' until no longer required. Prior to reuse by another patient, all loaned equipment must be thoroughly decontaminated as per manufacturers' instructions and local policy, if in doubt contact the infection control nurse. **For equipment that is on loan please seek advice from the company concerned regarding decontamination**.

13.6 In community and mental health inpatient settings the responsible team will ensure that appropriate daily cleaning is conducted for those patients who are MRSA positive and a terminal/deep clean is performed on discharge or when barrier precautions are discontinued.

13.7 In inpatient settings, patient's clothes to be washed separately from other patient items, on as hot a temperature as the fabric will allow.

14.0 DISCHARGES/TRANSFER TO ANOTHER ORGANISATION OR WARD/DEPARTMENT

14.1 If a patient is colonised with MRSA their discharge home or transfer to another organisation should not be delayed. Decolonisation regimes can be continued within the new care setting.

14.2 If a patient is to be transferred to another healthcare organisation with MRSA infection/colonisation, all relevant clinical details must be included in the **Inter Healthcare Transfer form/Infection Risk (on admission/transfer) form** relevant to your area (see relevant Standard Operating Procedure).

14.3 The patient's GP and the residential home, where relevant, should be informed of the patient's MRSA status and management during their hospital stay.

14.4 On discharge home, management of the MRSA colonisation should be discussed with the patient and their carers. An EPUT MRSA Patient Information leaflet should be given to the patient and/or carers (located in the appendices of the SOPs).

15.0 COMMUNICATION

15.1 Effective and timely communication is essential for the successful management of patients with MRSA colonisation/infection. Prior to a patient, who has been identified as being colonised or infected with MRSA being discharged from hospital, it is the responsibility of the discharging facility to ensure that the GP and/or district nurse or the residential/nursing home is informed. This is particularly important if the patient has commenced decolonisation treatment and may require assistance with applying the products and re-screening.

15.2 Colonisation with MRSA should not be a reason for preventing admission to community/MH inpatient units, intermediate care/rehabilitation beds or nursing/ residential care homes (Department of Health 2004). Patients with MRSA

should be treated like any others, with dignity, respect, in confidence and without prejudice.

15.3 Patients and relatives should be provided with timely and accurate information. Fact sheets can be downloaded from the Infection Prevention and Control Policy section of the Trust intranet.

16.0 OUTBREAKS OF MRSA

16.1 Outbreaks of MRSA are usually due to cross infection and should not occur if the above precautions are followed.

16.2 If an unusually high number of MRSA patients are identified on a ward the Infection Prevention and Control team (IPCT) will review the situation, in liaison with relevant organisations, and advise the ward accordingly.

16.3 **Closure of wards:** This recommendation will be made by the IPCT in consultation with the clinicians and managers. Such advice will depend on a number of factors i.e. the type of ward, number of patients affected, morbidity of patients affected etc. An outbreak control group will be assembled before any such decision is made.

16.4 The Infection Prevention and Control Team will continue to monitor the situation until it is satisfactorily resolved.

17.0 VISITORS

17.1 Where a patient tests positive for MRSA there should be no visiting restrictions.

17.2 Protective clothing is not necessary but visitors should be encouraged to wash their hands on leaving the care setting.

17.3 Patients should be encouraged to continue with their normal activities and visitors should be assured that there is normally no risk to them. If however a relative is immuno-compromised or awaiting surgery and wants further advice they should discuss this with their GP or Practice Nurse.

18.0 STAFF ISSUES

18.1 Routine screening of staff is not recommended.

18.2 Any issues relating to staff and MRSA colonisation or infection should be referred to the Occupational Health Department.

18.3 Staff must remember that those individuals who suffer from dermatological conditions such as dermatitis, eczema or psoriasis are at increased risk of acquiring *S. aureus* infections. It is important that staff who have concerns about these dermatological conditions seek the advice of their General Practitioner and are referred, by their manager, to the Occupational Health Service.

18.4 Staff should practice good hygiene at all times, this is important to prevent the spread of all infections, not just MRSA. Staff should cover cuts and grazes with a waterproof dressing before commencing work and should follow the infection prevention and control guidelines outlined above.

19.0 MONITORING ARRANGEMENTS

19.1 This policy and procedure has been risk rated as **high** risk. Monitoring of compliance is undertaken via monthly MRSA screening data for community inpatient areas and podiatric surgery and quarterly invasive device care bundle audits

20.0 REFERENCES

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END

Post Infection Review (PIR)/Root Cause Analysis (RCA) Process for MRSA bacteraemia and Clostridium difficile infection.