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Policy Title: POLICY ON THE DETECTION AND TREATMENT OF <i>Methicillin Resistant Staphylococcus Aureus</i> (MRSA) IN HEALTHCARE WORKERS		
Written by: Dr Collette MacDonagh-White	Title: Occupational Health Physician	
Approved by: Patrick O'Sullivan	Title: A/Director of Public Health	

Policy Statement

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1.0 PURPOSE

The guidelines on the control and prevention of MRSA in hospitals and in the community have recently been reviewed and updated by the SARI (Strategy for the control of antimicrobial resistance in Ireland) sub-committee. The purpose of health care worker screening is to minimise the transmission of infection between patients and staff by identifying staff with MRSA and treating them appropriately.

The impact of MRSA is considerable. In Ireland approximately 42% of isolates of *Staphylococcus aureus* recovered from bloodstream infections are Methicillin resistant and this is significantly higher than some European countries such as the Netherlands and these statistics are indicating a small but significant downward trend (EARSS 2008).

Measures to control the emergence and spread of MRSA are justified because there are fewer options available for the treatment of MRSA infections.

Routine screening of staff is not recommended.

1.1 MRSA

1.1.1 MRSA stands for Methicillin Resistant *Staphylococcus aureus*. *Staphylococcus aureus* is a bacterium that can reside on the skin or can be found in the nose of about one third of healthy individuals. It is generally non-pathogenic except where it gains access to:

1.1.1.1 Deep tissues such as broken skin resulting in surgical site or wound infections.


1.1.1.2 Bloodstream, leading to blood stream infection or bacteraemia.

1.1.1.3 Lungs causing e g: ventilator associated pneumonia.

1.1.2 Dry conditions such as dust and environmental surfaces act as reservoirs for *Staphylococcus aureus* and MRSA, and Gram positive cocci acquired on hands and/or gloves may be transferred to environmental surfaces and equipment when they come into contact with such surfaces e g: curtains, light switches, computer equipment etc. (SARI: 2005)

1.2 Prevalence

1.2.1 MRSA has been prevalent in many Irish hospitals since the early 1970's. The most recent epidemiological information on MRSA in Ireland comes from the North/South Study conducted in 2007. The overall rate of healthcare

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associated infections in Ireland was 4.9%. (Irish Hospital prevalence rates 2007.)

2.0 APPLIES TO

- 2.1 The Occupational Health Department
- 2.2 The Infection Control Team
- 2.3 Consultant Microbiologist
- 2.4 All healthcare workers HSE West – Limerick, Clare & North Tipperary

3.0 DEFINITIONS

- 3.1 MRSA – Methicillin Resistant *Staphylococcus aureus*

4.0 RESPONSIBILITIES


- 4.1 The policy refers to the responsibilities of the following individuals:
 - 4.1.1 The Occupational Health Physician
 - 4.1.2 The Occupational Health Nurse
 - 4.1.3 Infection Control Team
 - 4.1.4 Consultant Microbiologist
 - 4.1.5 Medical Microbiology Laboratory
 - 4.1.6 Line Manager

5.0 PROCEDURES

This section of the policy deals with the procedure of identifying healthcare workers who require screening for MRSA and the policy for treatment of same.

5.1 Candidates to be Screened

- 5.1.1 In the acute hospital setting if a member of staff is concerned that they are MRSA Positive or if a Line Manager has concerns regarding MRSA in their ward / department they should contact the Infection Control Team. Based on the information they receive the Infection Control Team may issue the individual with a “Recommendation for Screening for MRSA” form. **Appendix A.** This

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form should be completed by the staff member or line manager and returned to the Occupational Health Department.

5.1.2 In all settings other than the acute hospital setting, future care of the affected staff member should be managed by the individual Line Manager. The Line Manager will inform the Occupational Health Department of individual cases and will work collaboratively with the Occupational Health Department in such cases.

5.1.3 The screening of staff on a routine basis e.g: pre-employment, or at regular intervals, is not advised, but may be considered in areas where MRSA is endemic or an outbreak which is not being brought under control or for specific units on the basis of local risk assessment. (SARI: 2005) In this instance the Infection Control Team should contact the Occupational Health Department in writing informing of the need for screening.

5.2 Protocol for Screening the Candidate

5.2.1 Upon receipt of a "Recommendation for screening for MRSA" form the Occupational Health Department will contact the healthcare worker or their manager depending on the appropriateness to arrange an appointment for screening.

5.2.2 Healthcare workers are to be discouraged from self-swabbing as far as is possible unless medically indicated.


5.3 Handling of Samples

5.3.1 In the acute hospital setting all samples for MRSA screening of hospital staff by the Occupational Health Department will be taken by the Occupational Health Nurse and sent directly to the Department of Medical Microbiology.

5.3.2 Whether these samples are taken by the Occupational Health Department or the Line Manager **all** samples will be sent in the name of the Occupational Health Physician.

5.3.3 The results of all samples submitted by the Occupational Health Department or Line Manager will be returned directly to the Occupational Health Department and not to any other source e.g: ward, dept, and individual. Copies of reports are not routinely to be sent to other locations.

5.3.4 The Occupational Health Department will contact and inform the healthcare worker of the results and advise regarding treatment.

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5.4 Confidentiality

5.4.1 Under the rules of confidentiality within the HSE unnecessary disclosure of medical information related to any member of staff is a disciplinary offence; however, for reasons of Infection Control MRSA positive results on staff may be disclosed to the relevant members of the investigating team e.g. Infection Control team, line manager.

6.0 PROCEDURE FOR SCREENING

6.1 A nasal swab and a swab from any skin lesion are usually sufficient when initially screening staff for MRSA. Full screening is necessary after an initial positive site. The screening of medical, nursing and other health care staff may be indicated during the investigations of an outbreak where MRSA persists or where an unusual strain of MRSA is isolated. However this should be discussed with the health care workers who are involved and should be carried out by the Occupational Health Department in collaboration with and after discussion with the infection control team. (SARI: 2005)

6.2 Sterile charcoal swabs should be used to swab both anterior nares and any skin lesions during initial screening.

6.3 Full screening is only considered necessary if any of the initial swabs are positive and would include the following areas:

6.3.1 Anterior nares (one swab)

6.3.2 Both groins (one swab)

6.3.3 Any skin lesions / abnormal or broken skin

6.4 Treatment of Nasal Colonisation

6.4.1 The treatment of MRSA colonisation is on an individual basis as discussed with the Consultant Microbiologist and the Infection Control team:


6.4.1.1 Commence 5 days treatment Mupirocin (Bactroban) applied TDS to both nostrils.

6.4.1.2 The ointment should be applied using e.g. a clean finger tip or a cotton bud and both nostrils, pressed together.

Appendix B

6.4.2 Repeat MRSA screening should be carried out not less than 48 hours after cessation of treatment.

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6.4.2.1 If the swab remains positive for MRSA, repeat the course once only and consider checking for throat colonisation. Repeated courses of Mupirocin may lead to Mupirocin resistance. (SARI 2005)

6.4.2.2 If the MRSA strain is Mupirocin high level resistant, or is not eradicated after two courses of treatment a course of Naseptin may be considered as an alternative. The advice of the Consultant Microbiologist / Infection Control Team may be sought in these circumstances.

6.5 Additional Screening if Staff Member is Found to be Positive

6.5.1 Full screening is only considered necessary if any additional swabs are positive (see 6.0)

6.5.2 Take appropriate swabs for a full MRSA screen e.g: from both groins, nose and any skin lesions.

6.5.3 Use one swab for both nostrils and one swab for both groins

6.5.4 Moisten swabs with normal saline prior to sampling.

6.6 Treatment of Body Colonisation

6.6.1 If there is body colonisation the health care worker should bathe daily for five days with an antiseptic detergent such as 4% Chlorhexidine or 7.5% Povidone-iodine if the condition of their skin allows it. **Appendix C**

6.6.2 The skin should be moistened and the antiseptic-detergent applied thoroughly to all areas before rinsing in the bath or shower.


6.6.3 Special attention should be paid to known carriage sites including axilla, groin, perineum and buttock area.

6.6.4 Hair should be washed twice weekly with an antiseptic detergent. (SARI 2005)

6.6.5 Repeat MRSA screening should be carried out not less than 48 hours after cessation of treatment. (Refer to Appendix B)

6.6.6 If MRSA is not eradicated, the course may be repeated and may be continued if tolerated. (SARI 2005)

6.6.7 In rare cases it may not be possible to effect clearance by this regime. The Occupational Physician will discuss this with the Consultant Microbiologist and the Infectious Diseases Consultant and give appropriate advice to the health care worker should this happen.

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6.7 Throat Colonisation


- 6.7.1 The throat should only be swabbed if the Health care worker has a history of throat carriage or if MRSA is proving difficult to eradicate.
- 6.7.2 For throat colonisation attempts at clearance should be made initially by throat gargling with an antiseptic solution.
- 6.7.3 Systemic treatment should be considered only in exceptional circumstances
- 6.7.4 The advice of the consultant Microbiologist should always be sought before initiating such therapies.

6.8 Treatment of Colonisation of any Other Sites

- 6.8.1 If there is evidence of MRSA colonisation in any other sites a referral should be made to the appropriate specialist e.g. an MRSA positive swab result from an ear would be referred to the E.N.T. department. In this instance the Occupational Physician will refer the health care worker to the appropriate specialist and will provide the follow up care once the infection has been treated. Each case will be dealt with on an individual basis.

6.9 Screening by an External Source

- 6.9.1 All health care workers who require screening should be screened for MRSA by the Occupational Health Department where possible. In the community setting screening can be carried out by the line manager. Screening by other sources is **not** recommended. However, health care workers do have the right to choose their own medical practitioner.
- 6.9.2 Health care workers who become aware that they are colonised or infected with MRSA should inform the Infection Control Team or line manager. Based on the information they receive, the Infection Control Team will issue the individual with a "Recommendation for screening for MRSA" form. This form should be completed by the staff member or their line manager and returned to the Occupational health department.
- 6.9.3 Upon receipt of a "Recommendation for screening for MRSA" form the Occupational Health Department will contact the health care worker or their manager depending on the appropriateness to arrange an appointment for screening.

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6.10 Staff Related Issues

- 6.10.1 Staff should cover cuts and grazes with a waterproof dressing before commencing work and should follow the infection control guidelines appropriate to their area.
- 6.10.2 Staff with active proriasis should not undertake intimate nursing care of a patient until reviewed by Occupational Health.
- 6.10.3 Staff with eczema or other skin lesions working with patients with MRSA should inform their line manager who may need to refer them to the Occupational Health Department for advice.
- 6.10.4 Staff, when delivering care to patients/clients who are MRSA positive, should wear uniforms/designated clothing that should be washed in as hot a wash as the clothes will tolerate.

7.0 WORK RESTRICTIONS / EXCLUSIONS

- 7.1 Unless staff identified as carrying MRSA work in **high-risk wards**, i.e. intensive care units, neonatal units, orthopaedic units, solid organ or bone marrow transplant units, they should **not** be excluded from work. Staff working in high risk areas should be excluded from work, or reassigned to a low-risk area, for **48 hours only** from the start of decolonisation therapy. (SARI 2005)

Health care workers with persistent MRSA colonisation should have a formal risk assessment carried out to determine their fitness to work in a specific area or to determine their need to be redeployed.


7.2 Refusals

If MRSA screening is refused, the risk should be explained and the refusal recorded. Allocation to a low risk area of work may be appropriate.

8.0 REFERENCES

- 8.1 Royal College of Nursing (2004) Methicillin resistant *Staphylococcus aureus* (MRSA)
- 8.2 Health Carers-Associated Infection and Antimicrobial Resistance-Related Data from Acute Public Hospitals in Ireland 2006-2007
- 8.3 The Third Prevalence Study of Healthcare-Associated Infections in Acute Hospitals: Irish Prevalence Rates (2007)

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APPENDIX A

Recommendation for Screening for MRSA Form

For the Attention of the Occupational Health Department

Staff Member Details:

Name: _____ D.O.B: _____ Pin No: _____

Address: _____

Contact No: Work: _____ Home: _____ Mobile: _____

Manager Details:

Name: _____ Contact No: _____


Address: _____

Infection Control Department

Contact Details:

Name: _____

Extension No: _____


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APPENDIX B

MRSA Treatment for Nasal Colonisation

Day 1 – 5	Apply Bactroban Ointment to each nostril three (3) time a day (8 hourly). Use a cotton bud or gloved tip of the little finger and press nostrils together.
Day 8	Attend Occupational Health Department for re-screening of nose 48 hours after completion of the Bactroban Ointment.


For a person to be declared decolonised of MRSA three (3) consecutive negative swabs taken 72 hours apart, are required.

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APPENDIX C

MRSA ERADICATION PROTOCOL

Day 1 – 5	Apply mupirocin ointment (Bactroban) topically to each nostril 8-hourly (use cotton swab or gloved tip of little finger) and press nostrils together.
Day 1 – 5	Body wash with antiseptic detergent e.g. 4% chlorhexidine gluconate (Hibiscrub).
Day 1 and 4	Wash hair with antiseptic detergent e.g. 4% chlorhexidine gluconate (Hibiscrub).
Day 1 – 5	Change underclothes and towel.
Day 1 and 5	Change bed linen.
Day 6	Discontinue protocol.
Day 8	Take full MRSA screen from staff member.

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FACT SHEET FOR MRSA

- ❖ *Staphylococcus aureus* is an organism that may be carried in the nose or on the skin of up to 30% of the population

It is most commonly implicated in skin and soft tissue infection, but may also cause invasive infections, such as endocarditis, osteomyelitis, septic arthritis and intravenous device infections.

- ❖ Most MRSA colonised patients do not have evidence of clinical infection. However, it is estimated that 10 – 30 % of patients will develop an infection with MRSA, most of which will occur while in hospital.
- ❖ The majority of MRSA-colonised patients in the community have acquired MRSA in the health care setting or in nursing homes.

A small number will be colonised with community acquired MRSA (CA-MRSA). CA-MRSA has been seen more commonly in specific groups including children, athletes (contact sports), military recruits and prisoners. It is typically associated with skin and soft tissue infections such as folliculitis, furunculosis and cellulitis.

- ❖ For most patients in the community who are colonised with MRSA there is little risk of transmitting the organism to family members or household contacts. Even if transmission occurs, MRSA will not usually prove a risk to healthy people and MRSA colonisation in the group is usually transient. Therefore, eradication of MRSA in the community is not generally required.
- ❖ Reports indicate that extensive cleaning and soft furnishing replacement in the health care worker's home (Allen et al 1997) and screening and treatment of family members (Kniehl et al 2005) may be necessary to clear ongoing carriage in some health care workers.