

Sample Policy for Prevention and Control of Methicillin Resistant *Staphylococcus Aureus* (MRSA).

PURPOSE: To prevent and control the spread of Methicillin resistant *Staphylococcus aureus* (MRSA) in an acute care facility.

RATIONALE: MRSA is a strain of *Staphylococcus aureus* which is resistant to many of the antibiotics usually used to treat staphylococcal infections (eg. methicillin, cloxacillin, oxacillin and cephalosporins). Although MRSA doesn't cause more severe infections than sensitive strains, it is difficult to eradicate and control because of its resistance to commonly used antibiotics.

POLICY: Patients known or suspected to be at risk for infection or colonization with MRSA will be managed in consultation with Infection Control.

PROCEDURES:

1. **Assessment for risk of colonization with VRE and /or MRSA**
 - a) Anyone arranging the admission of any patient will inform infection control if the patient is known to be colonized with VRE and/or MRSA, or is coming from a hospital known or suspected of having VRE or MRSA (eg. American or European facilities).
 - b) On admission all patients will be screened to determine those at high risk for carrying antibiotic resistant organisms. A pre-printed doctor's order record titled "Admission Screening for Antibiotic Resistant Organisms" will be completed on all patients requiring an overnight hospital stay. This screening assessment will determine if these patients:
 - i. are being transferred from another hospital or long term care facility, or
 - ii. have had any overnight stay in a hospital (including MSH) or long term care facility in the last six months, or
 - iii. are previously known to be colonized or infected with VRE and /or MRSA.

2. **Culture screening of high risk patients**
 - a) Patients to be screened:
 - i. as above, all patients who answer yes to any of the questions on the admission screening order form or anyone for whom the information cannot be ascertained
 - ii. other patients identified as high risk by infection control .
 - b) Screening swabs will be taken of nares (1 swab both nares), open skin lesions (maximum of 2 largest sites) and rectum. (*Rectal swab should be performed by swabbing the peri anal area and then inserting the swab inside the anus to obtain faecal material*).

- c) Swabs will be sent to the Microbiology laboratory with a requisition that is labelled "MRO admission screening".
3. **Notification regarding patients who are colonized or infected**
When MRSA is identified from a patient, the microbiology laboratory will notify the nursing unit and infection control.
4. **Isolation precautions**
- a) All patients who are colonized or infected, will be managed on MRSA precautions until discontinued by infection control.
 - b) Patients judged by infection control to be high risk for colonization or relapse will be managed on MRSA precautions until discontinued by infection control.
 - c) MRSA precautions can be initiated by any member of the health care team. However, discontinuing precautions should only be done after consulting with infection control.
 - d) Patients being readmitted to MSH and who are known to have been colonized or infected with MRSA must be admitted into a single room and placed on isolation precautions. Notify infection control when patient is admitted.

Requirements for patients:

- i. Obtain an **MRSA supply cart** and place outside the patient's room.
- ii. Place patient in a **single** room with **STOP** and **Isolation Precautions** sign on door (signs are available in the MRSA isolation package on each nursing unit). Place an MRSA sticker found in the MRSA isolation package on the front and spine of the patient's chart and also on the patient's Kardex.
- iii. Give the ward clerk the "information for ward clerks" found in the MRSA isolation package.
- iv. Patients are not to leave their room. Diagnostic tests are to be arranged only in consultation with infection control. Whenever possible, diagnostic procedures should be performed in the patient's room. The most responsible physician must first confirm the test is a medical necessity and cannot be delayed until the patient is out of isolation.
 - Patient activity/movement will be assessed and modified by infection control where appropriate.
 - When booking procedures that require moving the patient to another department, the nursing unit will notify the department about the special isolation precautions required and will arrange transportation in accordance with Procedures for transportation of patients on VRE/MRSA precautions. An MRSA travel package containing barrier equipment will be sent with the patient.
 - All patients who require transport to another department will go directly to the department in a dedicated elevator. Patients will not be held in a

- waiting area or a corridor.
- If the patient cannot go directly into the room, the porter will take the patient directly back to the ward room using the dedicated elevator.
- v. Modification of MRSA precautions or activities can only be made by INFECTION CONTROL based on individual patient assessment.

Requirements for staff and/or visitors:

- i. Masks, gowns and gloves are to be worn by everyone who enters the room
 - Remove all barriers upon leaving the room. Gowns will be discarded in a linen hamper kept near the exit. Masks and gloves should be discarded in trash bin kept near the exit.
- ii. Hands will be thoroughly washed for 30 seconds before leaving the room
- iii. An alcohol based waterless hand rinse agent will be rubbed into hands immediately upon exiting room.
- iv. Nursing personnel will instruct all visitors about proper hand hygiene and use of barriers and precautions.
- v. Educate patients and family, utilizing information sheets found in the Patient, Family & Visitor information brochures. Where required, consult with infection control.
 - Any modification in precautions for family and visitors **MUST** be arranged in consultation with infection control.

Requirements for equipment:

- i. Equipment will be dedicated to the patient. Thermometers, stethoscopes, flashlight, blood taking equipment, portable blood pressure cuffs, rehab equipment, commode chairs, walkers, etc. will be left in the patient's room and only used for this patient.
- ii. If equipment such as oximeters or glucometers cannot be dedicated to an individual patient, they must be:
 - taken into the room with clean gloves and kept on a clean towel or cart.
 - wiped down thoroughly with 70% alcohol or facility approved disinfectant before being taken out of the room.
 - all portable equipment such as ECG machines, X-ray machines, ultra sound equipment will be wiped down thoroughly with 70% alcohol or facility approved disinfectant before being taken out of the room and then again once outside the room.
- iv. All equipment which is to be put back into general use for other patients such as wheelchairs, IV poles, blood pressure cuffs, etc. must be cleaned with soap and water and wiped thoroughly with 70% alcohol or facility approved disinfectant before being taken out of the room.

Dietary Requirements:

There are no special requirements for dietary utensils, trays, etc.

5. Education of patient and family
 - a) The Special Isolation Precautions for Patients with MRSA brochure must be reviewed with the patient and family (this information pamphlet is available in the MRSA packages on each nursing unit, or from infection control).
 - b) Patient and family must be instructed about appropriate use of handwashing and barrier equipment, as well as restrictions of activity. Any modifications to precautions for family or visitors **MUST** be arranged in consultation with infection control.
 - c) Consult infection control if patient or family have questions or concerns which need to be addressed.

6. Transfer of MRSA patients to other institutions, home care or the community
 - a) Patients will not be transferred to any other facility until transfer is discussed with designated infection control personnel at that facility. The infection control team must be notified of transfers in order to facilitate communication of patient status information.
 - b) Patients can be discharged home as per medical approval.
 - c) When patients require home care services, inform the home care coordinator immediately in order to assure that special precautions are initiated and communicated to the provider agencies. Patients requiring homecare should be managed according to established home care recommendations.
 - d) When discharged patients are scheduled to return for an appointments at any health care facility, the infection control team must be notified before discharge so arrangements can be made for appropriate precautions when patient returns for appointment
 - e) Patients should be instructed to advise any institution they visit or are admitted to that they have recently been on special precautions for MRSA.
 - f) When patients are being transported via ambulance, the ambulance service must be advised of MRSA status when the booking is being arranged.

7. Cleaning of room and equipment
 - a) Routine housekeeping.
 - Routine cleaning with hospital approved germicidal agent is recommended. After cleaning floors of isolation room, the bucket must be emptied, cleaned and dried and the mop head must be laundered. All horizontal and frequently touched surfaces should be cleaned with approved cleaning and disinfecting agent using a fresh cloth which is discarded or laundered after use. The patient room should always be cleaned prior to cleaning the bathroom.
 - b) Terminal cleaning after patient is discharged or transferred.
 - Thorough terminal cleaning of isolation room should include routine housekeeping practices in addition to complete cleaning of bed, bathroom, all horizontal surfaces and frequently touched surfaces; and removal/disposal of all used or unused supplies and patient care equipment.

8. Investigation protocol

a) INDEX CASE

Obtain cultures of the following sites for initial **"MRSA screening"**

- nares (use one swab for both)
- perineum/rectal
- open skin sites (2 largest sites)
- all invasive device entry sites (ie. IV, G-tube, foley)
- sputum (if productive cough)
- urine (if catheter insitu)

Swabs should be obtained as soon as possible after initial positive culture and repeated as directed by infection control or as outlined under section 9, treatment and/or eradication of MRSA . Usually nares, rectum, two largest skin sites and any previously positive sites are done on repeat screenings.

b) CONTACTS OF INDEX CASE

Obtain cultures of following sites for **"MRSA screening"**

Roommates:

- nares (use one swab for both)
- groin (use one swab for both)
- open skin lesions (2 largest sites)
- sputum (if productive cough)

Family: Family who visit regularly (at least twice a week), and/or provide some of the patient's care):

- nares
- open skin lesions (maximum 2 sites)

Other patients or staff

- the need for screening of additional patients and/or staff will be determined by Infection Control.

9. Treatment and/or eradication of MRSA

a) If patient is clinically infected:

- Treat with appropriate antibiotic according to lab sensitivities (consult with Infectious Disease service).
- Mupirocin ointment tid X 7 days to nares and all positive open skin lesions.
- Daily bath with 2% or 4% Chlorhexidine or Triclosan soap. Special attention must be paid to all skin folds, ie. axillae, inframammary folds, inguinal folds and perineum.
- Aqueous chlorhexidine 1:2000 (Hibidil) is to be used for daily cleaning of any wounds or insertion sites (surgical wounds, decubiti, trachs, G tubes etc).

- Repeat MRSA screening (see 8a.) 2-4 days after completion of therapy
IF cultures are NEGATIVE, maintain precautions and screen weekly
IF cultures are POSITIVE , maintain precautions and consult infection control.
- ii. If patient is a carrier or is colonized but has no symptomatic infection;
 - Mupirocin tid X 7 days to nares and all positive open skin lesions
 - Daily bath with 2% or 4% Chlorhexidine or Triclosan soap. Special attention must be paid to all skin folds, ie. axillae, inframammary folds, inguinal folds and perineum
 - Aqueous chlorhexidine 1:2000 (Hibidil) is to be used for daily cleaning of any wounds or insertion sites (surgical wounds, decubiti, trachs, G tubes etc)
 - Consider 7 days of oral treatment with an antibiotic to which the organism is sensitive (eg. Septra DS 1 tab po bid, Doxycyclin 100 mg po bid, or Fucidin 500 mg po tid) **PLUS** Rifampin 300 mg po bid (NOTE: Oral antibiotic should always be given in combination with Rifampin for eradication of asymptomatic colonization).
 - Repeat MRSA screening (see 8a.) 2-4 days after completion of therapy
IF cultures are NEGATIVE, maintain precautions and screen weekly
IF cultures are POSITIVE , maintain precautions and consult infection control.

10. Discontinuing MRSA precautions

- a) MRSA precautions can only be discontinued upon recommendation by a member of the infection control team.
- b) Generally, a patient must have 3 sets (1 week apart) of negative post treatment cultures. At that time, special precautions may be lifted and normal activities resumed. However, the patient must stay in single room and continue weekly screening for duration of hospitalization because patients can become re-colonized with MRSA up to 6 months following eradication therapy.
- c) If re-colonization does occur, then special precautions will be re-activated.