

Methicillin-Resistant Staphylococcus Aureus (MRSA)

INFECTION CONTROL GUIDELINES FOR MANITOBA

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COMMUNICABLE DISEASE CONTROL

Manitoba
Health
Public Health Branch



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I. Introduction

These Methicillin-Resistant *Staphylococcus aureus* (MRSA) Guidelines have been developed by a working group of Infection Control, Infectious Disease and Public Health Specialists with broad experience in managing communicable diseases. The increase of MRSA causing a number of hospital outbreaks identified the need for improved sharing of information between health care facilities and the advantage of having a standardized approach to a common problem.

The guidelines presented in this document are based on the combined experiences of the working group members and the most recent literature addressing this topic. The guidelines are intended to provide a framework for managing patients with MRSA. These guidelines replace the previous MRSA Infection Control Guidelines for Manitoba that were published in October 1996. **Individual health care facilities should develop policies relevant to their specific services and patient populations.**

These guidelines are not intended for the management of glycopeptide intermediate-resistant *Staphylococcus aureus* (GISA), formerly called Vancomycin intermediate-resistant *Staphylococcus aureus* or Vancomycin-resistant *Staphylococcus aureus* (VRSA). Guidelines for these organisms are in progress.

II. Preamble

Strains of *Staphylococcus aureus* resistant to Methicillin were first identified in Europe in the early 1960's. Over the past three decades Methicillin-Resistant *Staphylococcus aureus* (MRSA) has been recognized world wide as a major nosocomial pathogen. Data from the American National Nosocomial Infection Surveillance (NNIS) program has indicated that MRSA infections are continuing to increase in the USA, affecting hospitals of all sizes. MRSA is increasingly being identified in Canadian health care facilities and poses therapeutic and management problems in this country as well.

Methicillin-resistant strains of *Staphylococcus aureus* are generally no more virulent than sensitive strains but they are more difficult to treat. Furthermore once introduced into the hospital environment MRSA can be extremely difficult to eradicate.

MRSA is usually introduced into the health care facility by an unidentified, infected or colonized patient. Transmission in that setting most frequently occurs via the hands of health care workers that

become transiently colonized while delivering patient care. Risk factors associated with acquiring MRSA in the hospital environment include; chronic underlying diseases, prolonged hospitalization, broad spectrum antibiotic therapy and presence of invasive devices. Prompt identification of the organism and institution of specific infection control measures should be implemented to limit transmission.

In order to quickly identify high-risk individuals with MRSA, screening cultures are recommended. See Sections IV.A.2, IV.B.2, IV.C.2 and XII.

Scientific investigation of recent outbreak situations have indicated that at least two epidemiologically distinct groups of MRSA exist. The term "endemic" strains is now used to refer to the first recognized MRSA cases, controlled by basic isolation practices. The more recently recognized "epidemic" MRSA is used to describe a second group of MRSA strains that appear to be shed into the environment in much higher numbers and are more readily transmissible in the health care setting than the endemic strains of MRSA. Additional infection control measures (private room & masks for all contacts) are felt necessary to control the more transmissible epidemic strains of MRSA. It is not known why the new epidemic strains are more easily spread. Further research may provide the answers.

Because of increased numbers of easily transmissible MRSA, a precise definition of epidemic MRSA cannot be made. However, initial identification of epidemic MRSA in Manitoba is currently based on the organism's sensitivity to the antibiotic ciprofloxacin. Any patient with an MRSA that is resistant to ciprofloxacin is considered to be an epidemic case until molecular typing techniques (Pulsed-Field Gel Electrophoresis [PFGE]) are completed. Clusters of MRSA cases should be managed as epidemic strains even if Ciprofloxacin sensitive and sent for PFGE. Multiply-resistant strains of MRSA should also be managed as epidemic strains and sent for PFGE. St. Boniface and HSC will do their own PFGE. Rural areas as well as Winnipeg hospitals (other than HSC and St. Boniface) will send their isolates to Cadham Provincial Laboratory for PFGE. (See Section VI.).

Facilities may choose to manage both epidemic and endemic MRSA in the same manner recognizing that the benefits of a single, consistent protocol may outweigh the potential over-isolation of some cases. Where one approach is used, it should be the stricter one as outlined for epidemic strains of MRSA.

III. Definitions

Cohorting:	Physical separation (e.g., in a separate room or ward) of two or more patients colonized or infected with the same strain of MRSA from other patients who are not colonized or infected.
Colonized:	Patient who is MRSA culture positive and has no signs and symptoms of infection caused by the organism.
Contact:	Any individual who is exposed to an MRSA case in a manner in which transmission can occur.
Deflagging:	A system to remove an MRSA alert from the patient record.
Endemic strain(s) of MRSA:	MRSA which is present in an institution but doesn't appear to be easily transmissible among patients. Currently in Manitoba this term is being used to identify all strains which are ciprofloxacin sensitive .
Epidemic strain(s) of MRSA:	MRSA which is easily transmitted in an institutional setting; generally associated with increased morbidity. In Manitoba, at the present time, an epidemic strain of MRSA is one that is ciprofloxacin resistant until further characterized by Pulsed-Field Gel Electrophoresis (PFGE) Typing. Clusters of MRSA should be treated as epidemic strains even if Ciprofloxacin sensitive and sent for PFGE. Multiply-resistant strains of MRSA should also be treated as epidemic strains and sent for PFGE.
Eradiation/Decolonization Therapy:	Topical and/or systemic antibiotic treatment administered for the purpose of eliminating MRSA carriage in an individual.
Flagging:	A system which uses specific terminology to highlight information on a patient record. Example: MRSA POS, MRSA SUS.
Infected:	Patient who is MRSA culture positive and shows signs and symptoms of infection caused by the organism.
MRSA POS:	A code that can be used to identify a patient who is MRSA Positive. Some facilities may choose alternate identifiers.

MRSA SUS:	A code that can be used to identify a patient who is a: <ul style="list-style-type: none">• contact of a patient with MRSA but who has not had screening cultures done.• patient who was once MRSA positive and subsequently culture negative. Some facilities may choose alternate identifiers.
Outbreak of MRSA:	A definite increase in the incidence of MRSA above its expected endemic level of occurrence. This may involve any strain of endemic or epidemic MRSA. If an outbreak is suspected PFGE should be done.
Screening/ Surveillance Cultures	Cultures done in attempt to identify MRSA in an individual with risk factors for acquisition of the organism.

IV. A. Guidelines for the Management of Epidemic Strain(s) of MRSA in Hospitals

1. Identification/Notification of MRSA

Each facility must designate who is responsible for the following.

Notify Infection Control and if applicable, the Admitting Department. Identify on the patient record the type of MRSA, i.e., Endemic or Epidemic strain and the type of isolation to be used.

Isolate appropriately (See Section IV.A.3).

Determine the extent of colonization:

- Do surveillance cultures – nares (both nostrils – one swab), sputum or throat, rectal or ostomy, wounds, open skin lesions and/or draining sites and invasive line/device sites.
- Mark microbiology requisitions “Look for MRSA.”

Patient and visitors must receive verbal instructions re MRSA and Isolation/Infection Control precautions and a Patient Information sheet.

A patient identification system (e.g., chart flagging) must be in place for rapid identification of MRSA status on future admission and arranged by Infection Control with Medical Records.

The appropriate time to deflag records of positive patients must be decided by Infection Control. The usual practice is between six and 12 months.

2. Screening of High Risk Admissions

It is recommended that an individual with a past history of being MRSA positive and whose status is unknown should be isolated and cultured as per facility policy.

Note:

- History of risk may be either verbal or on a flagged chart.
- Refer to MRSA Screening Algorithm – See Section XII.

Screening cultures are recommended for the following:

- individual who is a contact of a patient with MRSA but who has not had MRSA screening cultures done.
- individual who was once MRSA positive and subsequently culture negative.
- individual who was hospitalized for greater than 24 hours in the past six months outside of Manitoba or in a provincial hospital with an MRSA outbreak in the previous six months.

Surveillance cultures should include the sites as stated in Section IV.A.1 above.

Good handwashing practices are sufficient while waiting for culture results and isolation is only required if cultures are positive. However, some facilities may choose to isolate individuals with significant risk factors, e.g., patient transferred from another intensive care unit during that time.

3. Isolation/Infection Control Precautions

Risk of transmission of infection is greatest in patient's room due to the heavily contaminated environment.

3.1 Room

Single room with separate bathroom and sink, with door closed. During outbreaks, cohorting of infected and colonized patients may be necessary, with collaboration and approval of Infection Control. Only the same strains of MRSA may be cohorted. Do not cohort an active MRSA positive patient with a patient who is in the eradication process or has completed eradication and is in the follow-up culturing phase.

In areas which have only cubicles, i.e., Emergency, Dialysis, the patient must be isolated in a cubicle space with the curtain drawn.

An infection control precaution sign, as per facility policy, must be placed on either the door of the room or the cubicle curtain.

3.2 Handwashing

Handwashing is the most effective method of preventing transmission of MRSA. It is important that all health care workers wash their hands:

- before and after direct and indirect patient care
- after handling contaminated equipment, articles and surfaces, linen, garbage and dishes
- after removing gloves
- when hands are visibly soiled

Handwashing must be done for a minimum of 10 seconds with a hospital approved antimicrobial hand soap. Waterless alcohol-based hand rinses may be used as an alternative where access to handwashing facilities is limited.

3.3 Gowning, Masking and Gloving

Everyone entering the room must gown, mask and glove according to hospital policy.

Masking is recommended to prevent inadvertent inoculation of the nares with MRSA.

To facilitate the gowning, masking and gloving procedure it is recommended that a table (or isolation cart) with masks, gloves and gowns be placed outside the patient's room.

3.4 Equipment/Articles/Supplies

Equipment such as BP machines, IV poles, stethoscopes, thermometers, commode chair, disposable bedpan/urinal accessories, etc., should be designated to the patient's room. They must be properly disinfected with a hospital approved disinfectant before being removed from the patient's room.

Do not stock pile disposable articles in the patient's room; take in only what is needed.

Disposable articles must be deposited in the waste disposal receptacle.

Articles that require reprocessing must be placed directly into the utility room for pick-up.

To facilitate removal of contaminated supplies from the room they can be passed to a second staff member for appropriate disposal and reprocessing, or can be taken out by the caregiver and handled according to infection control procedures.

After handling any equipment, the health care worker must immediately wash his/her hands with a hospital approved antimicrobial hand soap.

3.5 Linen

Deposit soiled linen into the linen bag inside the patient's room/cubicle or anteroom.

Linen does not need to be double-bagged. There is no evidence of transmission of infection from the outside of linen bags.

Soiled linen should be handled according to facility policy.

After handling soiled linen or linen bags, the health care worker must immediately wash his/her hands with a hospital approved antimicrobial hand soap.

3.6 Dishes

The dishes, utensils, etc., are removed from the outside tray and are to be taken separately into the patient's room.

The dietary delivery tray remains outside the room/cubicle.

When the patient has finished eating, the dishes are returned to the dietary tray or hospital tray, and placed directly on the dietary cart or left in the kitchen area.

A facility may choose to use disposable dishes.

After handling the dishes, utensils, etc., the health care worker must immediately wash his/her hands with a hospital approved antimicrobial hand soap.

3.7 Needles/Syringes

Sharps should be managed according to facility policy.

Must be disposed directly into a sharps container in the room.

After handling contaminated needles/syringes, the health care worker must immediately wash his/her hands with a hospital approved antimicrobial hand soap.

3.8 Laboratory Specimens

Phlebotomy trays should not be taken into the room.

All required equipment should be taken into the room at the start of the procedure.

Deposit into an impervious, sealable bag (e.g., Ziploc™) for removal from room.

Mark "Look for MRSA" on surveillance cultures.

After handling Laboratory specimens, the health care worker must immediately wash his/her hands with an approved antimicrobial hand soap.

3.9 Waste Disposal

Garbage bags should be managed according to facility policy.

After handling any garbage, the health care worker must immediately wash his/her hands with a hospital approved antimicrobial hand soap.

3.10 Environment

Daily cleaning must be done with a hospital approved disinfectant with particular attention to areas/items that are frequently handled, i.e., light cords, handrails. Walls do not need to be cleaned unless visibly contaminated.

When isolation is discontinued or the patient is moved from the room, thorough cleaning with a hospital approved disinfectant and changing of bed curtains is needed. If indicated, window coverings will be changed on direction from Infection Control. The room of a patient with

MRSA is heavily contaminated so it is important to thoroughly clean the room/cubicle to decrease the contamination.

Gowns, masks and gloves are used until the cleaning is completed.

3.11 Duration of Isolation/Infection Control Precautions

Isolation may only be discontinued by Infection Control when a series of follow-up cultures are negative.

The following are the criteria to determine when a patient is negative for MRSA and therefore may have the isolation/infection control precautions discontinued:

- off effective antimicrobials (antimicrobials to which MRSA is sensitive) for one week followed by MRSA negative surveillance cultures (both nares, throat or sputum, rectal or ostomy, open wounds, skin lesions and/or draining sites and invasive line/device sites) taken once a week for five consecutive weeks.
- if at anytime during the course of reculturing the patient becomes positive the surveillance cultures should be stopped and the plan of action re-evaluated.

Surveillance cultures are invalidated by the use of any antimicrobial to which the MRSA organism is sensitive. Care must be exercised to avoid, if possible, the use of such antimicrobials in the culturing time frame. If not, culturing should be stopped and restarted as above.

If the patient is an outpatient and unable to have weekly cultures, the requirement to determine MRSA status will be:

- off effective antimicrobials for one week and then five consecutive sets of surveillance cultures at intervals not less than one week. If at anytime the patient receives effective antimicrobials, culturing must be stopped and restarted as above.
- if at anytime during the course of reculturing the patient becomes positive the surveillance cultures should be stopped and the plan of action re-evaluated.

If a patient does not receive eradication/ decolonization therapy he/she must remain on isolation/infection control precautions for the

duration of the hospitalization or until deemed negative by Infection Control using the above criteria.

4. Treatment or Eradication Therapy – Infected or Colonized

Specific treatment/eradication/management of patient infection/colonization should be determined through consultation between the patient's physician and an Infection Control/Infectious Disease Consultant.

There are a variety of epidemic MRSA strains identified in Manitoba. Therefore a single regimen cannot be recommended. Treatment or eradication therapy must be chosen according to the organism's antibiogram. Eradication therapies for a variety of epidemic MRSA have been effective 50-70% of the time. If initial eradication therapy fails, a second course may be considered.

In an outbreak situation it may be helpful for Infection Control to develop a letter to physicians recommending eradication therapy. This letter could be placed on the patient's chart or sent to the patient's physician if the patient has been discharged. Additional information regarding isolation, surveillance cultures and chart flagging could be included.

5. Reculturing

If the patient is receiving effective antimicrobials (antimicrobials to which MRSA is sensitive) and remains in hospital, surveillance cultures should wait until antimicrobials have been stopped for one week.

If the patient remains in hospital and the organism has been successfully eradicated, culture once a month indefinitely. Some facilities may choose to stop culturing after a specific time if it is determined there is minimal risk of relapse. This could occur after six to 12 months of negative cultures.

If the patient remains in hospital and is still positive following eradication therapy, isolation should be maintained and cultures should be done once a month indefinitely. Once cultures become negative, culturing should continue on a weekly basis until five negative cultures are achieved (See Section IV.A.3.11).

6. Management of Contacts

6.1 Patient

The epidemic strains of MRSA heavily contaminate the environment and are easily transmissible in the hospital setting.

Culture all ward patient contacts from the date the MRSA POSITIVE patient was admitted to the date isolation instituted.

Isolation is not necessary unless cultures are positive.

If a patient contact is MRSA positive contact investigation will be required for this individual in consultation with Infection Control.

If a patient contact has been discharged prior to surveillance cultures being done the chart must be flagged as MRSA SUSPECT so that surveillance cultures can be taken if the patient is readmitted. The current practice for deflagging MRSA suspect charts is variable with some facilities maintaining chart flagging of discharged unscreened MRSA suspects for 6 months to a year.

If the patient contact has been transferred to another facility notify Infection Control in that facility so appropriate surveillance cultures may be obtained.

6.2 Staff

Surveillance cultures are not recommended unless an individual(s) is linked epidemiologically to further MRSA cases. This should be done in consultation with Infection Control and Occupational Health.

A staff case/carrier should be managed by Occupational Health in consultation with Infection Control.

6.3 Other

Culturing of other (family, volunteers) contacts is usually not indicated.

7. Diagnostic Procedures/Transfer of Patients within the Facility

All non-urgent procedures and therapy outside the patient room must be discouraged.

Diagnostic procedures must be performed at the bedside whenever possible.

If off the ward (i.e., physiotherapy [PT], occupational therapy [OT]) treatment is deemed essential to the patient's recovery, this should be discussed with the attending physician, the department and Infection Control. Infection Control will recommend appropriate precautions to be followed. For departments seeing large numbers of MRSA positive patients it might be beneficial to develop department specific guidelines.

If the patient must be transferred, the referring ward or clinic must notify the receiving department of the infection control precautions necessary.

The minimum amount of equipment necessary to perform the procedure must be used.

Equipment used in the transporting or testing of the patient must be wiped with the hospital approved disinfectant immediately after use and allowed to dry.

Prior to transporting, the patient must be masked and open wounds/lesions covered. Wrap patient in a sheet if they have extensive skin lesions or shedding.

Only the person transporting the patient must be gowned, masked, and gloved, since he/she is likely to have patient contact.

The elevator and hallways do not need to be cleared during the transport. The person transporting the patient must use a paper towel or alcohol prep swab to push elevator button or door.

If the chart is required, it should be placed in a plastic bag prior to transport.

If the patient does not have a designated wheelchair or stretcher in his/her room, the wheelchair or stretcher (e.g., PT, OT) must be disinfected after patient use.

8. Discharge or Transfer of the Patient

8.1 MRSA Suspect

MRSA SUSPECT patients must be identified on the patient's transfer sheet.

The MRSA Communication Sheet (See Section XI) is completed by the Infection Control Practitioner or designate and sent with the patient or by fax.

8.2 MRSA Positive

Patients might wish to go outside the hospital on a pass, etc. This must be done in consultation with Infection Control. A mask must be worn by the patient until outside the facility and another worn when the patient comes back into the facility.

If patients require home visits or assessments at their homes before discharge this must be discussed with Infection Control. If a health care worker must accompany the patient on the visit all equipment used in the visit must be wiped with the hospital approved disinfectant before being brought back to the hospital. While outside the hospital the health care worker will follow the Community Infection Control Guidelines when accompanying a patient (See Section V).

Prior to discharge the receiving facility, physician and other involved health care agencies (e.g., Home Care, VON) or other health care departments (e.g., PT) must be notified of the patient's MRSA status and treatment.

If a return appointment or visit has been made for the patient the unit must supply the patient with at least two masks. One mask is to be worn by the patient until outside the facility and the second is to be kept for wearing on entering the facility the next time.

Advise the patient of the importance of informing any health care worker of his/her MRSA status.

MRSA POSITIVE patients must be identified on the patient's transfer sheet.

The MRSA Communication Sheet (See Section XI) is completed by the Infection Control Practitioner or designate and sent with the patient or by fax.

Prior to transfer the health care worker in the hospital must:

- Mask patient.
- Cover any wounds/lesions.
- Wrap patient in a sheet if he/she has extensive skin lesions or shedding.

MRSA status alone does not warrant the need for an ambulance. Other transportation systems, e.g., Stretcher Car Service may be used.

Transfer patients by a transportation company that has trained staff and ability to follow proper Infection Control precautions. Transport service staff must:

- Follow the *Infection Control Guidelines for Health Care Workers in the Community* (See Section V) and the interim statement "Transport of the MRSA/VRE Positive Patient" (See Section XIII) which is in place until the completion of the *Infection Control Manual for Emergency Medical Services*.
- Consider the wheelchair/stretcher used to transport patient as contaminated.
- Disinfect vehicle surfaces and any equipment that was in contact with patient with an appropriate level disinfectant immediately after use.
- Clean sheets must be used for the next patient.

Ensure ground transportation staff (e.g., ambulance, Stretcher Car Service) are informed prior to transfer of the need for precautions.

9. Antimicrobial Hand Soap/Disinfectants

As per facility policy.

10. Point Prevalence Surveys

Not generally indicated. Cases and contacts will usually be identified through the management of contact follow-up.

11. Outbreaks

Outbreaks of MRSA can be managed according to the facility Outbreak Management Policy which will include notification of public health as appropriate.

IV. B. Guidelines for the Management of Endemic Strain(s) of MRSA in Hospitals

Note:

Facilities may choose to manage both epidemic and endemic MRSA in the same manner recognizing that the benefits of a single, consistent protocol may outweigh the potential over-isolation of some cases. Where one approach is used it should be the stricter one as outlined for Epidemic strains of MRSA. If clusters of ciprofloxacin sensitive or multiply-resistant strains are identified in hospital the epidemic MRSA Management must be followed until PFGE clarifies if an outbreak does exist.

1. Identification/Notification of MRSA

Each facility must designate who is responsible for the following.

Notify Infection Control and if applicable, the Admitting Department. Identify on the patient record the type of MRSA, i.e., Endemic or Epidemic strain and the type of Isolation to be used.

Isolate appropriately (See Section IV.B.3).

Determine the extent of colonization:

- Do surveillance cultures – nares (both nostrils – one swab), sputum or throat, rectal or ostomy, wounds, open skin lesions and/or draining sites and invasive line/device sites.
- Mark microbiology requisitions “Look for MRSA.”

Patient and visitors must receive verbal instruction re MRSA and Isolation/Infection Control precautions and a Patient Information Sheet.

A patient identification system (e.g., chart flagging) must be in place for rapid identification of MRSA status on future admission and arranged by Infection Control with Medical Records.

The appropriate time to deflag records of positive patient must be decided by Infection Control. The usual practise is between six and 12 months.

2. Screening of High Risk Admissions

It is recommended that an individual with a past history of being MRSA positive and whose status is unknown should be isolated and cultured as per facility policy.

Note:

- History of risk may be either verbal or on a flagged chart.
- Refer to MRSA Screening Algorithm – See Section XII.

Screening cultures are recommended for the following:

- individual who is a contact of a patient with MRSA but who has not had MRSA screening cultures done.
- individual who was once MRSA positive and subsequently culture negative.
- individual who was hospitalized for greater than 24 hours in the past six months outside of Manitoba or in a provincial hospital with an MRSA outbreak in the previous six months.

Surveillance cultures should include the sites as stated in Section IV.B.1 above.

Good handwashing practices are sufficient while waiting for culture results and isolation is only required if cultures are positive. However, some facilities may choose to isolate individuals with significant risk factors, e.g., patient transferred from another intensive care unit during that time.

3. Isolation/Infection Control Precautions

3.1 Room

Single or cohort with other patients infected/colonized with endemic MRSA. If this is not possible some flexibility may be exercised in consultation with Infection Control to house such patients with low risk roommates who would include those with no invasive lines/devices, no open skin lesions/wounds or no significant immunosuppression. A separate bathroom and sink should be in the room.

In areas which have only cubicles, i.e., Emergency, Dialysis, the patient must be isolated in a cubicle space with the curtain drawn.

An infection control precaution sign, as per facility policy, must be placed on either the door of the room or the cubicle curtain.

3.2 Handwashing

Handwashing is the most effective method of preventing transmission of MRSA. It is important that all health care workers wash their hands:

- before and after direct and indirect patient care
- after handling contaminated equipment, articles and surfaces, linen, garbage and dishes
- after removing gloves
- when hands are visibly soiled

Handwashing must be done for a minimum of 10 seconds with a hospital approved antimicrobial hand soap. Waterless alcohol-based hand rinses may be used as an alternative where access to handwashing facilities is limited.

3.3 Gowning, Masking and Gloving

Gloves are necessary for anyone having contact with infective material.

Gowns are necessary if soiling/splashing with infective material is likely.

Masks are necessary for everyone when a patient has an MRSA respiratory infection, MRSA infected burns and for irrigations of MRSA infected wounds.

To facilitate the gowning, masking and gloving procedures it is recommended that a table (or isolation cart) with masks, gloves and gowns be placed outside the patient's room.

3.4 Equipment/Articles/Supplies

Any contaminated equipment should be managed according to facility policy.

After handling any equipment the health care worker must immediately wash his/her hands with a hospital approved antimicrobial soap.

3.5 Linen

Soiled linen should be handled according to facility policy.

Linen does not need to be double-bagged. There is no evidence of transmission of infection from the outside of linen bags.

After handling soiled linen or linen bags, the health care worker must immediately wash his/her hands with a hospital approved antimicrobial hand soap.

3.6 Dishes

Used dishes should be managed according to facility policy.

After handling dishes, utensils, etc., the health care worker must immediately wash his/her hands with a hospital approved antimicrobial hand soap.

3.7 Needles/Syringes

Sharps should be managed according to facility policy.

After handling contaminated needles/syringes, the health care worker must immediately wash his/her hands with a hospital approved antimicrobial hand soap.

3.8 Laboratory Specimens

Mark "Look for MRSA" on surveillance cultures.

After handling Laboratory specimens, the health care worker must immediately wash his/her hands with an approved antimicrobial hand soap.

3.9 Waste Disposal

Garbage bags should be managed according to facility policy.

After handling any garbage, the health care worker must immediately wash his/her hands with a hospital approved antimicrobial hand soap.

3.10 Environment

Daily cleaning must be done with a hospital approved disinfectant with particular attention to areas/items that are frequently handled, i.e., light cords, handrails. Walls do not need to be cleaned unless visibly contaminated.

When isolation is discontinued or the patient is moved cleaning is done according to facility policy.

3.11 Duration of Isolation/Infection Control Precautions

Isolation may only be discontinued by Infection Control when a series of follow-up cultures are negative.

The following are the criteria to determine when a patient is negative for MRSA and therefore may have the isolation/infection control precautions discontinued:

- off effective antimicrobials (antimicrobials to which MRSA is sensitive) for one week followed by MRSA negative surveillance cultures (both nares, throat or sputum, rectal or ostomy, wounds, open skin lesions and/or draining sites and invasive line/device sites) taken for three consecutive weeks.
- if at anytime during the course of reculturing the patient becomes positive the surveillance cultures should be stopped and the plan of action re-evaluated.

Surveillance cultures are invalidated by the use of any antimicrobial to which the MRSA organism is sensitive. Care must be exercised to avoid, if possible, the use of such antimicrobials in the culturing time frame. If not, culturing should be stopped and restarted as above.

If the patient is an outpatient and unable to have weekly cultures, the requirement to determine MRSA status will be:

- off effective antimicrobials for one week and then three consecutive sets of surveillance cultures at intervals not less than one week. If at anytime the patient receives effective antimicrobials, culturing must be stopped and restarted as above.
- if at anytime during the course of reculturing the patient becomes positive the surveillance cultures should be stopped and the plan of action re-evaluated.

If a patient does not receive eradication/ decolonization therapy he/she must remain on isolation/infection control precautions for the duration of the hospitalization or until deemed negative by Infection Control using the above criteria.

4. Treatment or Eradication Therapy – Infected or Colonized

Eradication of endemic MRSA colonization is not generally indicated.

Systemic treatment of MRSA infection does not consistently eliminate colonization. If eradication is the goal then a course of eradication therapy may be necessary in addition to treatment. This approach should be determined through consultation between the patient's physician and an Infection Control/Infectious Disease Consultant.

5. Reculturing

If the patient is receiving effective antimicrobials (antimicrobials to which MRSA is sensitive) and remains in hospital, surveillance cultures should wait until antimicrobials have been stopped for one week.

Where a patient has become culture negative whether treated or not *and* remains in hospital surveillance cultures should be repeated every three months. Some facilities may choose to stop culturing after a specific time if it is determined there is minimal risk of relapse. This could occur after six to 12 months of negative cultures.

6. Management of Contacts

6.1 Patient

Roommate(s) of a patient identified with MRSA should have surveillance cultures (See Section IV.B.1) done.

Isolation is not necessary unless cultures are positive.

If the roommate is MRSA positive contact investigation will be required for this individual in consultation with Infection Control.

If a roommate has been discharged prior to surveillance cultures being done the chart must be flagged as MRSA SUSPECT so that surveillance cultures can be taken if the patient is readmitted.

If the roommate has been transferred to another facility notify Infection Control in that facility so appropriate surveillance cultures may be obtained.

6.2 Staff

Surveillance cultures are not recommended unless an individual(s) is linked epidemiologically to further MRSA cases. This should be done in consultation with Infection Control and Occupational Health.

A staff case/carrier should be managed by Occupational Health in consultation with Infection Control.

6.3 Other

Culturing of other (family, volunteers) contacts is usually not indicated.

7. Diagnostic Procedures/Transfer of Patients within the Facility

All non-urgent procedures and therapy outside the patient room must be discouraged.

Diagnostic procedures must be performed at the bedside whenever possible.

If off the ward (i.e., physiotherapy [PT], occupational therapy [OT]) treatment is deemed essential to the patient's recovery, this should be discussed with the attending physician, department and Infection Control. Infection Control will recommend appropriate precautions to be followed.

If the patient must be transferred, the referring ward or clinic must notify the receiving department of the infection control precautions necessary.

The minimum amount of equipment necessary to perform the procedure must be used.

Equipment used in the transporting or testing of the patient must be wiped with the hospital approved disinfectant immediately after use and allowed to dry.

Transportation staff should follow the same precautions as would be required in the patient's room.

8. Discharge or Transfer of the Patient

8.1 MRSA Suspect

MRSA SUSPECT patients must be identified on the patient's transfer sheet.

The MRSA Communication Sheet (See Section XI) is completed by the Infection Control Practitioner or designate and sent with the patient or by fax.

8.2 MRSA Positive

Patients might wish to go outside the hospital on a pass, etc. This must be done in consultation with Infection Control.

If patients require home visits or assessments at their homes before discharge this must be discussed with Infection Control. If a health care worker must accompany the patient on the visit all equipment used in the visit must be wiped with the hospital approved disinfectant before being brought back to the hospital. While outside the hospital the health care worker will follow the *Community Infection Control Guidelines* when accompanying a patient (See Section V).

Prior to discharge the receiving facility, physician and other involved health care agencies (e.g., Home Care, VON) or other health care departments (e.g., PT) must be notified of the patient's MRSA status and treatment.

Advise the patient of the importance of informing any health care worker of his/her MRSA status.

MRSA POSITIVE patients must be identified on the patient's transfer sheet.

The MRSA Communication Sheet (See Section XI) is completed by the Infection Control Practitioner or designate and sent with the patient or by fax.

Prior to transfer the health care worker in the hospital must:

- Mask patient if required (See Section IV.B.3.3).
- Cover any wounds/lesions.
- Wrap patient in a sheet if he/she has extensive skin lesions or shedding.

MRSA status alone does not warrant the need for an ambulance. Other transportation systems, e.g., Stretcher Car Service may be used.

Transfer patients by a transportation company that has trained staff and ability to follow proper Infection Control precautions. Transport service staff must:

- Follow the *Infection Control Guidelines for Health Care Workers in the Community* (See Section V) and the interim statement “Transport of the MRSA/VRE Positive Patient” (See Section XIII) which is in place until the completion of the *Infection Control Manual for Emergency Medical Services*.
- Consider the wheelchair/stretchers used to transport patient as contaminated.
- Disinfect vehicle surfaces and any equipment that was in contact with patient with an accepted disinfectant immediately after use.
- Clean sheets must be used for the next patient.

Ensure ground transportation staff (e.g., ambulance, Stretcher Car Service) are informed prior to transfer of the need for precautions.

9. Antimicrobial Hand Soap/Disinfectants

As per facility policy.

10. Point Prevalence Surveys

Not generally indicated. Cases and contacts will be identified through the management of contact follow-up.

11. Outbreaks

Outbreaks of MRSA can be managed according to the Facility Outbreak Management Policy which will include notification of public health as appropriate.

IV. C. Guidelines for the Management of MRSA (Epidemic and Endemic) in Long Term Care Facilities

Note:

A Manitoba Health statement (February, 1995) states that based on substantial current information there is no justification for exclusion of hospitalized patients with MRSA colonization or infection from admission to long term care facilities.

1. Identification/Notification of MRSA

Each facility must designate who is responsible for the following.

Notify Infection Control. Identify on the resident record the MRSA status and infection control precautions required.

Institute appropriate infection control precautions (See Section IV.C.3).

Determine the extent of colonization:

- Do surveillance cultures – nares (both nostrils – one swab), sputum or throat, rectal or ostomy, wounds, open skin lesions and/or draining sites and invasive line/device sites.
- Mark microbiology requisitions “Look for MRSA.”

Resident and family/visitors must receive verbal instruction re MRSA and infection control precautions and a Patient Information Sheet.

2. Screening of High Risk Admissions

Note:

- History of risk may be either verbal or on a flagged chart.
- Refer to MRSA Screening Algorithm – See Section XII.

Screening cultures are recommended for the following:

- individual who is a contact of a patient with MRSA but who has not had MRSA screening cultures done.
- individual who was once MRSA positive and subsequently culture negative.

- individual who was once MRSA positive and whose status is unknown.
- individual who was hospitalized for greater than 24 hours in the past six months outside of Manitoba or in a provincial hospital with an MRSA outbreak in the previous six months.

Surveillance cultures should include the sites as stated in Section IV.C.1 above.

Good handwashing practices are sufficient while waiting for culture results and infection control precautions are only required if cultures are positive. However, some facilities may choose to use precautions for individuals with significant risk factors, e.g., hospitalized in an intensive care unit during that time.

3. Infection Control Precautions

3.1 Room

A multiple-bed room with another MRSA positive individual or a low-risk roommate (i.e., one who does not have an open wound, invasive device or multiple functional disabilities) is usually appropriate.

A private room should be considered for an MRSA-positive individual with:

- Respiratory tract colonization with a respiratory infection.
- Wound drainage which cannot be contained.
- Behaviour/conditions which fail to maintain basic hygiene and increase environmental soiling.

An MRSA-positive resident should be allowed to socialize, go to the dining hall and participate in activities outside his/her room. Those requiring a private room need to be assessed on an individual basis in order to minimize direct contact with other residents.

An infection control precaution sign, as per facility policy, must be placed on either the door of the room or the cubicle curtain.

3.2 Handwashing

Handwashing is the most effective method of preventing transmission of MRSA. It is important that all health care workers wash their hands:

- before and after direct resident care
- after handling contaminated equipment, articles and surfaces, linen, garbage and dishes
- after removing gloves
- when hands are visibly soiled

Handwashing must be done for a minimum of 10 seconds with soap. Waterless alcohol-based hand rinses may be used as an alternative where access to handwashing facilities is limited.

3.3 Gowning, Masking and Gloving

Gloves are necessary for anyone having contact with infective material.

Gowns are necessary if soiling/splashing with infective material is likely.

Masks are necessary for everyone when a resident has an MRSA respiratory infection and for irrigations of MRSA infected wounds.

3.4 Equipment/Articles/Supplies

Anything contaminated should be disinfected as per facility policy.

Equipment should not be shared between residents/clients.

After handling any contaminated equipment, the health care worker must immediately wash his/her hands with soap.

3.5 Linen

Soiled linen should be handled according to facility policy.

Linen does not need to be double-bagged. There is no evidence of transmission of infection from the outside of linen bags.

After handling soiled linen or linen bags, the health care worker must immediately wash his/her hands with soap.

3.6 Dishes

Used dishes should be managed according to facility policy.

After handling used dishes, utensils, etc., the health care worker must immediately wash his/her hands with soap.

3.7 Needles/Syringes

Sharps should be managed according to facility policy.

After handling contaminated needles/syringes, the health care worker must immediately wash his/her hands with soap.

3.8 Laboratory Specimens

Mark "Look for MRSA" on surveillance cultures.

After handling Laboratory specimens, the health care worker must immediately wash his/her hands with soap.

3.9 Waste Disposal

Garbage bags should be managed according to facility policy.

After handling any garbage, the health care worker must immediately wash his/her hands with soap.

3.10 Environment

Daily cleaning must be done with a disinfectant with particular attention to areas/items that are frequently handled, e.g., light cords, handrails. Walls do not need to be cleaned unless visibly contaminated.

When infection control precautions are discontinued or the resident is moved the room is cleaned according to facility policy.

3.11 Duration of Infection Control Precautions

As long as MRSA positive.

4. Treatment or Eradication Therapy – Infected or Colonized

Eradication of MRSA in LTC is not generally indicated.

Specific treatment/management of resident infection should be determined through consultation between the resident's physician and Infection Control/Infectious Disease Consultant.

5. Reculturing

Every three months as long as resident remains positive.

Once cultures are negative repeat at weekly intervals for three weeks before stopping precautions.

When acute clinical symptoms (e.g., respiratory infection or wound drainage) develop in an individual who is currently MRSA negative but has previously been MRSA positive.

6. Management of Contacts

6.1 Resident

Should only be cultured:

- If presenting signs/symptoms of an acute infectious process.
- As part of an outbreak investigation within the facility.
- As part of an investigation from another facility when notified by the Infection Control Practitioner from that facility.

Culture both nares, sputum or throat, wounds and/or open skin lesions, invasive line/device sites, draining sites, i.e., eyes, ears.

Put "Look for MRSA" on requisition(s).

6.2 Staff

Surveillance cultures are not recommended unless an individual(s) is linked epidemiologically to further MRSA cases. This should be done in consultation with Infection Control and Occupational Health.

A staff case/carrier should be managed by Occupational Health in consultation with Infection Control.

6.3 Other

Culturing of other (family, volunteers) contacts is usually not indicated.

7. Diagnostic Procedures/Transfer of Resident within the Facility

Should a diagnostic procedure be required in a hospital the resident's MRSA status should be communicated prior since more stringent precautions will likely be required in that setting.

Should procedures, e.g., occupational therapy (OT), physiotherapy (PT), century tub bath be required, arrangements should be made for times which will minimize risk to other residents.

8. Transfer of the Resident with MRSA

Inform long term care facility or hospital of MRSA status and any treatment or eradication therapy given.

The MRSA Communication Sheet (See Section XI) is completed by the Infection Control Practitioner or designate and sent with the resident or by fax.

Ensure appropriate information is on transfer documents.

Advise resident of the importance of informing any health care worker of his/her MRSA status.

Prior to transfer the health care worker must:

- Mask resident if required (See Section IV.C.3.3).
- Cover any wounds/lesions.
- Wrap resident in a sheet if he/she has extensive skin lesions or shedding.

MRSA status alone does not warrant the need for an ambulance. Other transportation systems, e.g., Stretcher Car Service may be used.

Transfer resident by a transportation company that has trained staff and ability to follow proper Infection Control precautions. Transport service staff must:

- Follow the *Infection Control Guidelines for Health Care Workers in the Community* (See Section V) and the interim statement “Transport of the MRSA/VRE Positive Patient” (See Section XIII) which is in place until the completion of the *Infection Control Manual for Emergency Medical Services*.

- Consider the wheelchair/stretchers used to transport resident as contaminated.
- Disinfect vehicle surfaces and any equipment that was in contact with resident with an appropriate disinfectant immediately after use.
- Clean sheets must be used for the next patient.

Ensure ground transportation staff (e.g., ambulance, Stretcher Car Service) are informed prior to transfer of the need for precautions.

9. Hand Soap/Disinfectants

As per facility policy.

10. Point Prevalence Surveys

Not generally indicated. Cases and contacts will be identified through the management of contact follow-up.

11. Outbreaks

Outbreaks of MRSA can be managed according to the Facility Outbreak Management Policy which will include notification of public health as appropriate.

Infection Control Guidelines for Health Care Workers in the Community

Manitoba
Health
Public Health Branch



COMMUNICABLE DISEASE CONTROL

PREAMBLE:

These infection control practice guidelines outline the standards for preventing the spread of all infective microorganisms in community settings. Precautions used in acute care settings may be more intensive depending on the microorganism (eg. MRSA, VRE) and will generally be stopped once the individual is discharged from that facility.

1. HANDWASHING

- A 10-15 second handwash with soap and running water is the most effective method of preventing the spread of infective microorganisms. Paper towels or a clean towel must be used to dry hands and turn off faucets. Use only bar soap that is well drained, or liquid soap. Clients should be encouraged to wash out liquid soap containers before refilling.
- Handwashing should be done before and after direct care; after removing gloves; after handling body substances, contaminated equipment, articles and surfaces, linen, garbage and dishes; and before leaving the clients' home.
- When handwashing facilities are inaccessible use a waterless alcohol or chlorhexidene-based handwashing product and rub vigorously for 10-15 seconds, eg. towelettes, liquid, gel. Wash hands with soap and water at the next possible opportunity.

2. GOWNS, MASKS, PROTECTIVE EYE WEAR AND GLOVES

(Personal Protective Attire)

- **Disposable Gowns or Aprons** should be used when splashing or soiling of clothes with blood or body fluids is likely to occur.
- **Masks and Protective Eyewear** should be used if splashing of blood or body fluids is likely to occur.
- **Disposable Gloves** should be used when contact with blood is likely to occur. They should also be used for handling of potentially infectious material such as feces, wound secretions, mucous membrane lesions, skin lesions, and also when the health care worker has nonintact skin on hands.

3. NURSING/MEDICAL EQUIPMENT AND SUPPLIES

- **Reusable equipment** should be cleaned after use and then either sterilized or disinfected depending on how it will be used. eg: Footcare instruments or forceps for wound care should be sterilized; bed pans and urinals should be disinfected; and stethoscopes should be wiped with 70% alcohol. Standard procedures should be developed by health care agencies for processing all equipment and supplies.

- **Use of disposable equipment** may eliminate the need for cleaning, disinfection or sterilization procedures for reusable equipment. Disposable equipment should be placed in a bag and discarded with regular waste.
- **Needles, syringes and other sharps** should be placed in a puncture resistant container. If a commercial disposal container is not available a plastic, thick walled, household container (eg: bleach, vinegar bottle) should be used.

4. HOUSEHOLD EQUIPMENT/ ARTICLES/SUPPLIES

- Equipment such as bath stools, etc. should be cleaned with a normal household cleaner before use by other individuals.
- After handling contaminated equipment hands should be washed immediately with soap and running water for 10-15 seconds.

5. LINEN

- Linen and clothing should be washed by the usual methods. Health care workers should wear protective attire (ie: disposable gloves and gown or apron) to sort or handle linen that is heavily soiled with body fluids.
- Wash hands for 10-15 seconds with soap and running water after removing gloves.

6. DISHES

- Dishes should be washed by the usual methods.

7. GARBAGE

- Dispose of soiled gloves and other supplies in the regular garbage. Wash hands with soap and running water for 10-15 seconds after handling garbage.

8. ENVIRONMENT

- Clean the household/environment as usual with regular household cleaner, paying special attention to items frequently handled during care.
- After a spill of blood or body fluids the surface should be cleaned with soap and hot water and, if possible, disinfected with a solution such as 1:10 bleach and water. Gloves should be used and hands washed after removing gloves.



VI. Pulsed-Field Gel Electrophoresis (PFGE) for Typing MRSA

To confirm the identity of epidemic strains of MRSA, PFGE is currently offered at three laboratories:

- HSC will do their own
- St. Boniface will do their own
- Winnipeg Hospitals (other than St. Boniface & HSC), Rural Hospitals and all Long Term Care Facilities
 - access Cadham Provincial Lab (CPL)

CPL Procedure:

1. Send MRSA isolate(s) to CPL with a completed Cadham Microbiology and Serology requisition. Please indicate potential source or location of infection, e.g., known contact; Winnipeg hospital; USA. At present isolates will be compared to the provincial MRSA PFGE database maintained at CPL.
2. A written report will be sent back to the referring laboratory stating that the MRSA has been referred for epidemiological purposes. Diane Phippen will phone respective Infection Control Personnel with more detailed results.

**METHICILLIN-
RESISTANT
STAPHYLOCOCCUS AUREUS
(MRSA)**

MRSA Working Group
Manitoba Advisory Committee on Infectious Diseases (MACID)
1996

PATIENT AND FAMILY
INFORMATION SHEET

Information Sheet

Methicillin-Resistant *Staphylococcus aureus* (MRSA)

What is Methicillin-Resistant *Staphylococcus aureus*?

Staphylococcus aureus is a common germ. Some people have this germ in their noses and throats, but do not have an infection and do not need treatment. Sometimes people develop infections with this germ and require treatment. When common medicines cannot treat *Staphylococcus aureus* the germ is said to be “resistant.” This germ is not more serious than other germs. It is different because only a few medicines will treat it.

Important to Know

One of your test results (cultures) shows that you have this germ and may require special medicines. You may also need to use special precautions. Your doctor or nurse will discuss this with you.

Why are Special Precautions Needed in Hospital?

It is important that special precautions are taken to stop the germ from spreading to other clients/patients.

What will be Special?

1. You may be asked to stay in your room so the germ will not spread to others.
2. Persons caring for you may wear masks, gowns and gloves to prevent them from carrying the germ to others.
3. It is very important for all persons entering and leaving your room to wash their hands.
4. A precaution instruction card to alert our staff, and a cart with necessary supplies will be placed outside your doorway.

5. If it is necessary for you to go to another part of the hospital (for example, to x-ray), you must first wash your hands. A staff member may help you to cover any wounds you may have, and help you to put on a mask.

6. You may be tested for MRSA throughout your stay in the hospital. If you return to this hospital or go to a different one you may need special precautions until you no longer have this germ.

Family and Visitors?

You may have visitors. They may wear a gown, mask and gloves in your room and will remove them before leaving your room. These will be provided by health care facility. It is important for visitors to wash their hands before they leave the room if there is a sink, or immediately after leaving your room at a sink close by.

Why is Home Different?

It is not likely that any special precautions will be needed when you are not in the hospital. At home there are no other patients to whom the germ can be spread. Handwashing is always important and should be done at home.

How YOU can Help!!

1. Wash your hands often and well.
2. Ask your nurse or doctor any questions you may have.
3. If you have been given an MRSA Protocol card by your facility please present it IF you go to another doctor, IF you go to another hospital, or IF you return to this hospital. This will indicate to your doctor or nurse that you had MRSA and had special precautions. You may require further testing, treatment or special precautions. If you were in a facility that does not use cards then just notify health care workers regarding your MRSA history.

**TESTING FOR
METHICILLIN-
RESISTANT**

***STAPHYLOCOCCUS AUREUS*
(MRSA)**

MRSA Working Group,
Manitoba Advisory Committee on Infectious Diseases
(MACID), 1998

Adapted with thanks and permission from the Infection Control
Unit, Health Sciences Centre, Winnipeg

**PATIENT AND FAMILY
INFORMATION SHEET**

Hospitals are places where sick people come for treatment for a particular condition or concern. Because of the large number of sick people, hospitals also provide a place where germs may be passed from one patient to another.

Good hygienic practices such as handwashing are usually adequate to prevent the spread of germs. In some cases, other measures such as gowning, masking and gloving are needed.

Germs are often carried in the warm moist areas of your body as well as the gut. One way to find these germs is to take swabs of your nose, throat, rectum and any open wounds to try and grow these germs in the lab. This type of testing helps the hospital in their efforts to control the spread of uncommon germs (i.e., germs which are not killed by the usual antibiotics) within the hospital.

During this admission or a previous admission to the hospital you may have been in contact with an uncommon germ called methicillin-resistant *Staphylococcus aureus*. *Staphylococcus aureus* is a germ that is normally found in the nose and throat. Sometimes people get infections from this germ and require treatment with antibiotics such as Cloxacillin. When this medicine no longer works against *Staphylococcus aureus*, the germ is said to be resistant and special procedures in the hospital are needed.

The risk of you getting this uncommon germ is very low, but to prevent the small chance that this could be spread to other patients, we would like to get some swabs from you. Results are usually available within a week. Your doctor will call you if he/she needs further information.

Thank you for your cooperation.

Questions You May Be Asked:

My family member was recently in a facility where there is MRSA. Should I be concerned?

No. Most patients are never exposed to the MRSA cases. The majority of patients who were on the same wards as the MRSA cases would have been tested.

Should I still come to the facility for my tests or to visit, etc.?

Yes. Appropriate precautions have been instituted so that the germ will not spread to other patients. The facility is still open, admitting patients/residents and providing care and treatment.

I am a member of the community who heard about this in the news. What does this mean to me? Should I be worried?

Most people in the community will never develop or be exposed to MRSA. If you do happen to be exposed to MRSA and you are healthy, it is very unlikely that it will make you sick.

MRSA Working Group
Manitoba Advisory Committee on Infectious Diseases
(MACID), 1998

Adapted with thanks and permission from the Infection Control Unit, St. Boniface General Hospital, and the Department of Occupational and Environmental Medicine, Health Sciences Centre, Winnipeg.

METHICILLIN- RESISTANT STAPHYLOCOCCUS AUREUS (MRSA)

INFORMATION
FOR
HEALTH CARE WORKERS

What symptoms does MRSA cause?

MRSA may be present with no symptoms at all. If the germ is in the nose or on a skin site with no sign of infection, the person is said to be “colonized” with the bacteria. For someone who is ill and develops an infection with the bacteria, the symptoms will reflect the patient’s site of infection, e.g., a urinary tract infection, an abscess (or boil) or a wound infection. Remember, this bacteria is not more likely to cause an infection, it is just more of a challenge to treat.

What do I have to do to take care of a patient with MRSA?

The Infection Control Manual is an important reference for you to read about how MRSA is managed at your facility. *You must know and follow these instructions carefully to ensure that you are well protected from catching the germ and from taking it to other patients.* The information in the manual will tell you how to enter and exit the room and will tell you how to handle the supplies and equipment that you need to use for that patient. MRSA positive patients are isolated according to your facility’s policies and procedures for MRSA.

Do I need to be swabbed or have any tests done if I have looked after an MRSA patient? What would happen if I was found to be positive?

Health care workers do not need to be routinely swabbed if they have provided care for an MRSA patient. Good handwashing and careful work practices with all patients will prevent you from catching MRSA as well as many other germs. Sometimes, if several

patients are found to have MRSA in the same unit over a period of time, the Department of Occupational Health may consider swabbing health care workers in that area to see if someone has caught the germ and is contributing to transmission. The swab result information would be kept confidential within the Department of Occupational Health. If a health care worker is found to have a positive MRSA result on his/her swab, the Department of Occupational Health will look after the worker and probably prescribe antibiotic therapy, as well as, decide if a restriction from work, for a short period, is necessary.

Am I at greater risk for getting MRSA if I am pregnant?

Pregnant women, who are otherwise healthy, are not at any increased risk of infection of illness with MRSA. By practicing good handwashing after all patient contact, regardless of whether the patient is known or suspected to have MRSA. Good handwashing will stop health care workers from catching and spreading many other types of germs.

Who do I call if I need more information?

Health care workers, who have questions or need more information, are welcome to contact their Occupational Health Nurse or designate.



What You Should Know About Methicillin Resistant *Staphylococcus Aureus* (MRSA)

COMMUNICABLE DISEASE CONTROL

What is *Staphylococcus aureus* (*S. Aureus*)?

Staphylococcus aureus (*S. aureus*) is a member of the *Staphylococcus* family of bacteria. It is normal for people to carry the germ on their skin or in their noses. People who carry this germ are generally not aware of it and are usually completely healthy.

If the germ gets inside the body, for example under the skin, in the lungs or intestines, it can cause mild skin infections, pneumonia or food poisoning. When it does cause infection, it is usually easily treated with antibiotics.

What is methicillin resistant *Staphylococcus Aureus* (MRSA)?

Methicillin refers to a group of antibiotics that includes cloxacillin, which is the usual treatment for *S. aureus*. Some *S. aureus* are no longer killed by these antibiotics and are called methicillin resistant.

Over the past 30 years, more strains of *S. aureus* have become resistant to commonly used antibiotics. This makes infections caused by these organisms more difficult and expensive to treat. MRSA may cause illness, but no more often than other kinds of the germ.

S. aureus germs, whether or not they are methicillin resistant, are often carried by people without causing any illness. These people are called "carriers."

How do bacteria become resistant?

When antibiotics are used often or for a long time, germs can develop a resistance to certain drugs. This can also occur when people stop taking prescribed antibiotics once they begin to feel better.

Who gets MRSA?

Patients in health care facilities who have open wounds, catheters or tubes, and those who are very ill, are most likely to get MRSA.

The general public living in the community who have normal, healthy immune systems are not at increased risk of getting this organism so there is generally no need for special precautions.

How is MRSA diagnosed?

A doctor or nurse can take swabs from different areas of the body (e.g., nose, wound or rectum) for MRSA testing.

How is MRSA spread?

The germs can be passed from a person who is either ill with MRSA or a carrier. They are passed to another person directly by touching, or indirectly through something that has the germs on it. MRSA is not transmitted by breathing near a person with the germ. It is also not usually passed on from the surrounding environment except in special circumstances (e.g., areas of high infections like those found in hospitals.)

How is its spread prevented in hospitals?

When patients with MRSA are identified in a hospital, the hospital will try to prevent the organism from spreading to other patients. This is known as infection control. Hospitals adopt extremely strict infection control practices to prevent the spread of MRSA because hospital patients are often particularly vulnerable to infection. For example, it is standard procedure for all patients in a hospital who are MRSA positive to be separated from other patients and the general public. Meanwhile, antibiotics may be given to them to try to kill the germs.

How is its spread prevented in the community?

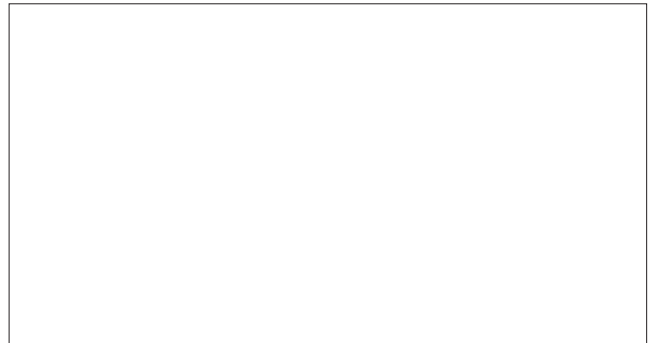
Most people living in the community are not at increased risk of illness from this germ.

The best way to prevent bacterial infections of all kinds is good personal hygiene:

- wash hands frequently and thoroughly with soap and water for 10-15 seconds;
- avoid sharing personal articles such as cups, towels and toothbrushes;
- clean and protect wounds promptly; and
- cover your mouth when coughing or sneezing.

Where can I get more information?

For further information, call your local public health unit (municipal and provincial listings in the grey pages at the back of the telephone book).



XI. MRSA Communication Sheet for Infection Control Practitioner

Referring Facility _____

Receiving Facility _____

Name of Client/Patient/Resident _____

Date of Birth _____ MHSC# _____

Physician Name _____

Date MRSA Identified or Suspected _____

Strain – Epidemic Yes No

Infection

Colonization

Describe Treatment _____

Site(s)

Nares

Throat or Sputum

Rectum or Ostomy

Invasive line/device sites Specify _____

Wound Specify _____

Other draining sites Specify _____

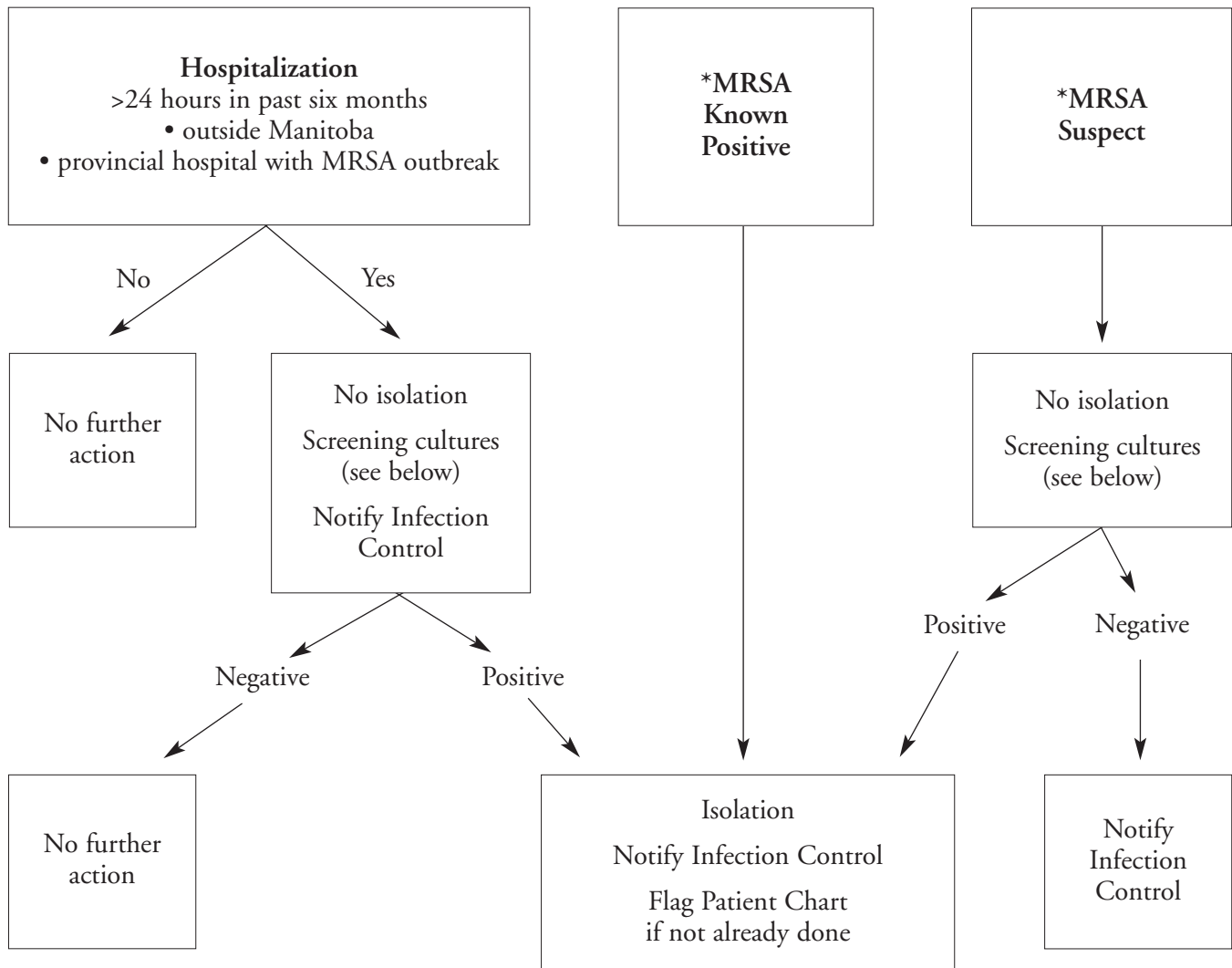
Include copies of the five most recent culture results with this report form.

Contact follow-up completed in referring facility: Yes No

Signature _____ Date _____

Health-Care Worker Name/Position _____

XII. MRSA Screening Algorithm



	Screening Cultures	Isolation/IC Precautions
MRSA	<ul style="list-style-type: none"> • Anterior Nares (both nostrils – one swab) • Throat or Sputum • Rectal/Ostomy • Open wounds/skin lesions • Invasive line/device sites • Draining sites 	Isolation only required if cultures are positive. However facilities may choose to isolate individuals with significant risk factors while waiting for culture results.

*MRSA Known Positive – individual who is culture positive
– individual with a past history of being MRSA positive and whose status is unknown

*MRSA Suspect – individual who is a contact of a patient with MRSA but who has not had MRSA screening cultures done
– individual who was once MRSA positive and subsequently culture negative

XIII. Transport of the MRSA/VRE Positive Patient (Interim statement October, 1998)

MRSA OR VRE POSITIVE patients must be identified on the patient's transfer sheet. The MRSA or VRE Communication Sheet must be filled out by the facility Infection Control Practitioner or designate and sent with the patient or be forwarded by fax.

A Stretcher Car Service can be used for the transport unless the patient's clinical condition other than MRSA or VRE warrants an ambulance – e.g., trauma, other medical condition, deterioration, or circumstance where an ambulance service is required. The transferring or referring hospital/facility **MUST** notify the receiving department and the transport service/agency of the need for infection control precautions.

Prior to transfer, the health care worker in the hospital or facility **MUST**:

For **MRSA positive** patients:

- cover any wounds/lesions;
- wrap the patient in a sheet if the patient has extensive skin lesions or shedding;
- place a mask on the patient until outside the facility if masking is part of the isolation requirements.

For **VRE positive** patients:

- cover any wounds/lesions;
- wrap the patient in a sheet if the patient has extensive skin lesions or shedding.

Whether the patient is transferred by stretcher car service or by ambulance the transporting service/agency must ensure their staff are trained in proper infection control policies and procedures. The transport service/agency must also ensure that staff follow the infection control policies and procedures.

The transport service/agency staff **MUST**:

- follow the *Infection Control Guidelines for Health Care Workers in the Community* and *Infection Control Manual for Emergency Medical Services*;
- the **MRSA positive** patient does not need to be masked during transport unless the transferring or referring hospital/facility staff indicate this is required due to the patient's condition;
- re-mask the **MRSA positive** patient prior to entering **HOSPITALS ONLY**;
- consider the wheelchair/stretcher used to transport patient as contaminated;
- disinfect the vehicle surfaces and any equipment that was in contact with the patient with an appropriate disinfectant immediately after use;
- dispose of contaminated linen and supplies as per infection control guidelines;
- use clean sheets for the next patient.

XIV. References

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