Table 2

SUBJECT:
Prevention and Control of Methicillin-Resistant *Staphylococcus aureus* (MRSA)

POLICY:

It shall be the policy of _____ to utilize accepted infection control methods to prevent and control MRSA in the facility.

PURPOSE:

The primary goals of MRSA prevention and control in long-term care facilities are:[1]

1. Preventing the transmission of MRSA to residents, staff, and visitors while preserving the quality of life for those residents colonized with MRSA.

2. Facilitating admission or re-admission of residents with MRSA colonization.

Definition of terms used in this policy:

Staphylococcus aureus: a common species of gram-positive bacteria found on the skin and in the anterior nares of manypeople

Methicillin-Resistant Staphylococcus aureus (MRSA): strains of S. aureus that are resistant to the antibiotics methicillin, oxacillin, nafcillin and other antimicrobials

Colonization: the presence of microorganisms in or on a host with growth and multiplication but without tissue invasion or damage

Infection: the entry and multiplication of microorganisms in the tissues of the host accompanied by clinical signs and symptoms

Disinfection: a process that kills or destroys nearly all microorganisms, with the exception of bacterial spores, on inanimate objects

Background

The following is a brief summary of the epidemiology of MRSA in the long-term care setting[2-3] that forms the basis for the approaches used in this policy.

- Rates of MRSA colonization in long-term care facilities have ranged from 5-35%; VA long-term care facilities tend to have higher rates than community facilities;

the main body sites of colonization are the nares, open wounds/ulcers, ostomy sites, urine (usually in the presence of a foley catheter), and oropharynx.

- Residents most likely to be colonized with MRSA include those with the poorest functional status, with invasive devices (foley catheters, tracheostomy, or feeding tubes), with recent hospitalization, or prior history of MRSA colonization

- Rates of transmission of MRSA tend to be low in the long-term care setting even among roommates of colonized residents. Transmission of MRSA from resident-to-resident occurs via the contaminated hands of staff who fail to follow appropriate infection control technique including hand hygiene. Airborne or droplet spread of MRSA is rare. Therefore, standard precautions should be effective in preventing transmission of MRSA in the long-term care setting with few exceptions. If standard precautions are followed diligently, there is no need for screening cultures for MRSA in the endemic setting.

- Rates of MRSA infection are low among colonized residents

- Transmission of MRSA to staff is very low and when it does occur colonization is transient

- Environmental contamination with MRSA has been documented but there is no evidence that this represents a major reservoir for transmission in the long-term care setting; therefore, no special cleaning methods are required.

- In the endemic situation there is no long-term benefit to attempting to eradicate MRSA colonization; re-colonization occurs and there is a tendency for strains to develop resistance to the drug(s) used for decolonization.

PROCEDURES

Surveillance

Monitoring for antibiotic-resistant organisms, including MRSA, is an important aspect of the ongoing infection control program in long-term care facilities. Surveillance for MRSA at _____ will include:

1. There will be a regular review of culture and susceptibility test results obtained as part of routine care to identify residents with MRSA. This review will include determining if the culture results represent colonization or infection

2. Infection control professional will maintain a confidential log of residents with MRSA colonization and infection. This log will include demographic information, room/unit location, dates of positive culture(s), sites of

colonization/infection, documentation of treatment, and date of negative cultures (if it occurs).

3. Weekly prevalence of MRSA colonization/infection by unit of a facility and for the whole facility will be monitored to define the baseline or endemic level of MRSA colonization and infection. These data will be used to define threshold levels that would prompt additional investigation or enhanced control measures [see section below on surveillance and the threshold testing methodology].

4. Screening cultures of residents, staff, or the environment for MRSA will not be done routinely unless there is evidence of an ongoing outbreak. Determination of when screening cultures will be done is the responsibility of the infection control professional working in collaboration with the facility medical director, director of nursing, and administrator.

Control Measures

The control measures below are based on the concept that the nursing home represents the residents' home. In the nursing home setting group activities such as dining, recreation, and other social activities are encouraged in order to maintain and enhance the quality of life of residents. Control measures that limit resident activity and movement, such as those used in the acute care setting, are generally not necessary in the nursing home setting and may result in emotional and social deprivation.

A. General Control Measures

1. Standard Precautions
   - Most LTCF residents with MRSA colonization or infection can be cared for using Standard Precautions (see Standard Precautions policy for details of the procedures) with the addition of hand antisepsis (see below). Standard Precautions and hand antisepsis are adequate for LTCF residents who have contained MRSA colonized or infected secretions/excretions. Secretions/excretions (including wound drainage, stool and urine) are contained when they are unable to leak out of containment products. This includes wound dressings, incontinence products, urine bags, ostomy bags, etc.
   - Because colonization with MRSA is often unrecognized and because other infectious organisms may also spread in nursing homes, compliance with Standard Precautions is important in the care of ALL residents whether or not they are known to have MRSA.

2. Hand Hygiene
   - MRSA is transmitted primarily via the contaminated hands of staff. Therefore, the single most effective means of reducing the potential for transmission is hand antisepsis (destroying or removing transient microorganisms from the hands) before and after contact with residents, including after glove removal.
   - Healthcare workers at _____ are required to wash their hands for at least 10 seconds before leaving a patient room whether or

not gloves are worn. The indications for handwashing are specified in the facility "Hand Hygiene" policy (section of the Infection Control Manual).

3. Communication
    - If a resident with MRSA colonization or infection requires transfer to another facility, this fact will be noted on the transfer documents.

B. Specific Control Measures
    1. Admissions
        - Guidelines for the control of antibiotic resistant organisms in the long-term care setting from various organizations and states have taken a strong position against denying admission of an individual to a long-term care facility based solely on the presence of colonization/infection with MRSA or other resistant organism[4-10]
        - Therefore, it is the policy of _____ not to deny admission to any individual who is known to have colonization or infection with MRSA or any other resistant organism.

    2. Room Placement
        - Residents with MRSA colonization or infection do not require placement in a private room. Residents with MRSA may be placed with appropriate roommates.
        - An appropriate roommate is either a resident with MRSA (cohorting) or a resident who:
            - has intact skin with no significant open wounds or breaks in skin (superficial tears or breaks in the skin such as minor scratches, would be acceptable) and
            - has no invasive devices, indwelling vascular or urinary catheters or drainage devices (e.g., tracheostomy or tracheal tubes, gastrostomy tubes, or intravenous lines) and
            - is not significantly immunocompromised (serious acute or chronic infection, systemic steroids or chemotherapy) - please note that based on age alone, most "healthy" elderly residents are not considered significantly immunocompromised. and
            - is not colonized or infected with a different resistant organism.

    3. Activities

        The following factors should be considered in terms of group activities:
        - Hand hygiene is a very important component of participation in group activities. Residents with MRSA will have their hands cleaned with antimicrobial soap or a waterless alcohol-based hand antiseptic prior to leaving their room and whenever they again become contaminated when the resident is out of their room.
        - Residents with MRSA will have clean, dry wound dressings that adequately contain any drainage.

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- Residents with MRSA in stool or urine, who are incontinent of either, will be clean and wear an incontinence product when leaving their room. In addition, all residents will wear clean clothes or a clean cover gown when leaving their rooms.
- Residents with MRSA who are cognitively or behaviorally impaired and cannot maintain hygienic practices present challenges. Staff will work with the infection control professional and others to devise individual strategies to address infection control issues in order to allow the resident the opportunity for movement and socialization.
- In the rare case in which some restriction of movement may be necessary (e.g., residents who may be shedding large numbers of MRSA or who have been linked to the development of infection in other residents) the type of restrictions will be determined by staff in collaboration with the infection control professional and the resident's primary care provider.

4. Environmental Cleaning
    - Room cleaning - Standard facility procedures will be followed for cleaning the rooms of residents with MRSA. Use of the facility's standard disinfectant is adequate for this purpose.
    - Physical and recreational therapy equipment - The hands of residents with MRSA will be cleaned before the resident uses recreational or physical therapy equipment. Standard facility procedures will be followed for routine cleaning and disinfection of recreational and physical therapy equipment used by residents with MRSA.
    - Trash disposal - Standard facility procedures for trash disposal will be followed; no special handling is necessary

5. Shared Bathrooms, Showers, Tubs, etc.
    - Bathrooms - In situations where a resident with MRSA shares a bathroom with a roommate who does not have MRSA, the bathroom will be cleaned and disinfected using standard facility procedure (e.g., daily and when visibly soiled).
    - Commodes- if used, should not be shared with roommates who do not have MRSA.
    - Showers, Tubs - Shared tubs and showers will be cleaned and disinfected per standard facility procedure after use by residents with MRSA. It may be practical to bathe residents with MRSA after other residents have completed their bathing.

6. Dishes, glasses, eating utensils, etc.-- No special precautions are needed for dishes, glasses, cups or eating utensils. The combination of hot water and detergents used in institutional dishwashers is sufficient to decontaminate these items.

7. Laundry

- Standard precautions will be used for the handling of laundry from residents with MRSA colonization or infection . Standard procedures will be used to deal with soiled laundry including bed linens.
- Special handling (i.e., double bagging, etc.) is not necessary. Laundry should not be rinsed at point of use.
- No special laundering procedure is required.

8. Decolonization -- Routine decolonization for MRSA is not recommended for LTCF residents.[2-4, 8-10] Decolonization therapy for MRSA may result in the emergence of resistance to the agents used and recolonization is common. Therefore, decolonization will not be routinely used in this facility.

9. Staff Education
   - The facility has mandatory continuing education programs for staff who have direct contact with residents or items in their environment regarding standard infection control techniques as well as additional techniques such as contact precautions.
   - In addition, these programs emphasize that healthy people are at very little risk of developing MRSA infection and that there are no special precautions for pregnant staff who work with residents with MRSA

10. Resident, Family, Visitor Education
    - Residents and their families and visitors will be educated about MRSA and the precautions to be taken, including hand antisepsis and methods to limit environmental contamination with stool, urine, and respiratory secretions. This education will be done using short handouts describing MRSA and how it is transmitted and methods to control it.
    - Family and visitors will be required to clean their hands before entering and leaving the room of a resident with MRSA.
    - Family/visitors will wear gloves when handling the secretions/excretions of residents with MRSA or when providing direct care (e.g., bathing). Hands will be washed after glove removal.
    - Staff will provide families, visitors and other residents additional support to alleviate their concerns and to ensure that they understand that residents with MRSA need not be avoided.

C. Indications for Contact Precautions (in addition to Standard Precautions)

1. Although Standard Precautions and hand antisepsis are sufficient for most residents with MRSA, Contact Precautions may be indicated for residents with MRSA who are potentially more likely to shed the organism into their environment. <u>Residents on Contact Precautions will not be placed in a private room except in extenuating circumstances (to be determined by the infection control professional in conjunction with nursing staff).</u> Contact Precautions, in addition to Standard Precautions, will be used in the following situations:

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- Residents with MRSA infected or colonized wounds that cannot be covered completely by dressings or who have drainage that cannot be contained by dressings.
- Residents with fecal or urinary carriage of MRSA whose urine or stool cannot be contained in incontinence products, urine bags, or ostomy bag
- Residents with a tracheostomy who have MRSA colonization or infection of the respiratory tract and large amounts of uncontained respiratory secretions
- Residents who have been epidemiologically linked to MRSA infections in other residents

2. Contact precautions: Glove use
    - In addition to wearing gloves as per Standard Precautions, gloves will be worn when providing direct care (changing clothing, toileting, dressing changes, etc)
    - Gloves will also be worn when handling items potentially contaminated by MRSA including tables, bed rails, tubing, electronic equipment, urine bags, etc.
    - Wearing gloves is not a substitute for hand antisepsis. After providing care and before leaving the resident's room, staff must wash their hands

3. Contact precautions: Gown use
    - For all residents gowns will be worn as necessary as specified by Standard Precautions
    - In addition, when caring for residents on Contact Precautions clean, non-sterile gowns will be worn if direct care (bathing, lifting, etc) is provided or when there is the likelihood of substantial contact with secretions/excretions (e.g., linen changes).

4. Contact precautions: Patient care equipment
    - Patient care equipment (commode, thermometer, blood pressure cuff, and stethoscopes) will be dedicated to the resident in Contact Precautions when this is feasible
    - If equipment must be shared, it should be cleaned and disinfected before use for another resident.

5. Contact precautions: Eye protection, face shields
    - MRSA is not known to be transmitted via the airborne route and masks are <u>not</u> a routine component of Contact Precautions
    - Masks and eye protection or face shields should be worn during the care of any resident if indicated by Standard Precautions.

6. Discontinuing Contact Precautions

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- When the condition of a resident with MRSA changes (e.g. drainage is decreased or able to be contained or infection is no longer present), and criteria for Contact Precautions are no longer met, these precautions will be discontinued
- It is not necessary to obtain cultures to determine if a resident remains colonized with MRSA before discontinuing Contact Precautions. The main concern is that drainage is controlled or infection has subsided. It is likely that residents who are colonized with MRSA will continue to be colonized at multiple body sites and repeated culturing will not be beneficial.

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