

Massachusetts Department of Developmental Services

MRSA, VRE, and C. Diff Management Protocol

PURPOSE:

To provide guidance for personnel in order to prevent the spread of Antibiotic Resistant Microorganisms (Methicillin Resistant Staphylococcus Aureus - MRSA, Vancomycin Resistant Enterococci - VRE) and Clostridium Difficile (C. Diff) among individuals, personnel, and the environment.

INTRODUCTION:

Methicillin resistant staphylococcus aureus (MRSA), Vancomycin resistant enterococci (VRE) and Clostridium Difficile (C. Diff) are bacteria that can colonize or infect people. Acute and long term care facilities have seen a dramatic increase of MRSA and VRE and C.Diff infections among the general population. With the increased incidence of MRSA in health facilities, we have seen increasing numbers of individuals with MRSA, VRE or C.Diff infections in the community and Department programs. It is the goal of this protocol to ensure proper management for infected individuals and prevention of the spread of infection to other individuals and personnel.

APPLICABILITY:

This Protocol applies to individuals served by the Department who receive day and/or residential supports or services where those services are provided regardless of the facility or region in which they are served.

DEFINITIONS:

Clostridium Difficile (C.Diff.): A bacteria normally found in the bowel that can develop into an infection called C. diff colitis in the bowel if other normal bacteria in the bowel are eliminated or significantly reduced usually through the use of antibiotics.

Colonized individual (carrier): Any person who is found to be culture-positive for MRSA or VRE, but has no signs or symptoms of infection caused by the organism (asymptomatic).

Community Acquired Infection: An infection acquired from a non-hospital source.

Decolonize: To administer topical and/or systemic antimicrobial agents for the purpose of eradicating MRSA carriage by an individual.

Infected person: Any individual who has laboratory and clinical evidence of disease caused by MRSA or VRE (symptomatic).

Methicillin Resistant Staphylococcus Aureus (MRSA): A strain of Staphylococcus aureus resistant to the antibiotics methicillin, nafcillin, or oxacillin. Such strains are often resistant to many other antibiotics.

Nosocomial Infection: An infection acquired in a hospital.

Outbreak: An increase in the incidence of MRSA/VRE above its expected normal level. An outbreak is suggested if there are three or more hospital-acquired cases that are linked by person (e.g., same health care provider), place (e.g. same wing, room) or time (onsets within 10 days of one another) of occurrence in a given facility.

Standard Precautions: A system of protective actions that assumes that all body substances may contain potentially infectious material. It requires good hand washing technique and use of barriers such as gloves, gowns, masks and eye protection to prevent transmission of microorganisms based on site of infection.

Universal Precautions: A system of protective actions similar to Standard Precautions but which apply only to blood spills or body fluids containing visible blood.

Vancomycin resistant enterococci (VRE): A strain of Enterococci resistant to the antibiotic vancomycin

DISCUSSION:

Staphylococcus aureus is a type of bacteria (germ) that is commonly found on the skin and mucous membranes (such as inside the nose). **Enterococci** are bacteria that are part of the normal flora of the gastrointestinal and female genital tracts. These same bacteria may cause disease when

- an open wound or nick in the skin allows them to enter the body; (those who have had intra-abdominal or cardiothoracic surgical procedures are more susceptible to VRE)
- there is a place they can accumulate and multiply, e.g. alongside a catheter or any plastic prosthesis;
- the body's resistance to infection is diminished; and/or
- other helpful bacteria have been destroyed by antibiotics.

Clostridium difficile are bacteria that are part of the normal flora of the gastrointestinal tract. It is an opportunistic bacterium that is usually kept under control in the bowel by other bacteria. These bacteria can cause problems when:

- the body's resistance to infection is diminished; and/or
- other helpful bacteria have been destroyed by antibiotics.

MRSA and VRE are distinguished from most other bacteria because they are particularly resistant to antibiotics. This can also be true of some strains of C. diff.

MRSA and VRE strains are not more virulent (more likely to cause disease/infection) than methicillin or vancomycin responsive strains of the bacteria. They are just harder to eliminate.

TRANSMISSION

MRSA

MRSA is **transmitted by direct person-to-person contact, usually on the hands of caregivers.** Transmission mode is determined by source of infection. **If a person has no signs of infection, there is no need to test individuals for the presence of the bacteria.**

VRE

While most cases of VRE come from the individual's own bowel flora, VRE can spread by direct individual-to-individual contact or on the hands of caregivers. VRE infection can be transmitted from contaminated articles by direct contact with such articles by an at-risk individual or indirectly by a staff person who does not comply with thorough hand washing, hygiene, housekeeping and other infection control measures. VRE have been recovered from bedrails, sheets, call buttons, telephones, horizontal surfaces, doorknobs, and equipment such as stethoscopes and thermometers.

Individuals with VRE in the stool may continue to shed the bacteria for weeks to months and treatment may not completely eliminate the organism.

C.Diff

Because clostridium difficile are part of the normal flora (normal bacteria) of the gastrointestinal, most infections with these bacteria are from the individual's own flora. Clostridium difficile can also be spread via the fecal-oral route and can be transmitted from contaminated articles or food by direct contact with such articles by an at-risk individual or indirectly by a staff person who does not comply with thorough hand washing, hygiene, housekeeping and other infection control measures. **The thorough and appropriate cleaning of toilets and other bathroom fixtures is especially important in cases where the bathroom is shared by others who may be at risk.**

PROCEDURE:

MRSA

I. Management of Infected Individual

When an individual living in or receiving services from a Department operated or funded facility or program is diagnosed with MRSA, the following shall occur:

- A. The individual's physician shall determine whether the MRSA represents colonization or an active infection, and shall order treatment as necessary. Consultation with an infectious disease specialist may occur as indicated.
 1. Treatment with antibiotics may be ordered as indicated for infected or colonized persons by their HCP.

2. Management of severe infection usually requires hospitalization for treatment with antibiotics.
 3. Cultures of infected/colonized sites may be recommended by the person's HCP or an infectious disease specialist. **It is customary that two negative cultures indicates the individual is free of infection or colonization. The Department will follow that standard.**
- B. The Area nurse shall be notified as soon as possible and consulted if necessary.
- C. The service provider in consultation with the person's HCP shall review the health issues specific to the individual and make recommendations and/or decisions regarding home, work, and other activities as appropriate. Consideration shall be given to the fact that transmission of MRSA from roommate to roommate in other than acute care (hospital) settings occurs rarely. **Participation in normal living activities shall be encouraged as appropriate** for the individual. In making such decisions, the team shall consider:
1. the body sites from which MRSA has been cultured and whether drainage from such sites can be contained;
 2. whether invasive devices are present (e.g. G-tubes, catheters);
 3. the person's competence regarding personal hygiene and whether these factors relate to the potential spread of MRSA;
 4. the type of direct care the person requires; and
 5. the characteristics of "housemates" and/or "coworkers" in relationship to the potential for spread of MRSA.
- D. Team recommendations/decisions regarding the person's living and day situations shall be based upon the following considerations:
1. MRSA positive individuals may share a bedroom with a low-risk individual (i.e. one who does not have tubes, catheters, wounds or decubiti, intravascular lines and/or is not immunocompromised), or with another MRSA positive individual.
 2. MRSA positive individuals can be considered for a private room if the person
 - a. has a respiratory colonization **and** has a productive cough or other oral/nasal secretions (e.g., excessive drooling, runny nose, sneezing, etc.);
 - b. has a draining wound that cannot be contained;
 - c. does not understand or cannot cooperate with basic hygiene,
 - d. has a skin condition that may facilitate transmission of MRSA (e.g. eczema) and/or may soil the room with body substances such that a roommate would be likely to have inadvertent contact.
 3. Decisions regarding placement and treatment shall be documented in the individual's record and progress notes.
 4. **Individuals with MRSA infection or colonization shall not be refused placement/services solely on the basis of his or her MRSA status.**
- E. The service provider shall ensure that staff receives training regarding MRSA infection including issues and concerns specific to the individual with MRSA.

II. Management of the Infected Individual

When an individual living in or receiving services from a Department operated or funded facility or program is diagnosed with VRE, the following shall occur:

- A. The individual's physician shall determine whether the VRE represents colonization or an active infection, and shall order treatment as necessary. Consultation with an infectious disease specialist may occur as indicated.
 - 1. Treatment with antibiotics may be ordered as indicated for infected or colonized persons by their HCP.
 - 2. Management of severe infection usually requires hospitalization for treatment with antibiotics.
 - 3. Cultures of infected/colonized sites may be recommended by the person's HCP or an infectious disease specialist. **It is customary that two negative cultures indicates the individual is free of infection or colonization. DMR will follow that standard.**
- B. The Area nurse shall be notified as soon as possible and consulted if necessary.
- C. The service provider in consultation with the person's HCP shall review the health issues specific to the individual and make recommendations and/or decisions regarding home, work, and other activities as appropriate. **Participation in normal living activities shall be encouraged as appropriate for the individual.** In making such decisions, the team shall consider:
 - 1. the body sites from which VRE has been cultured and whether drainage from such sites can be contained;
 - 2. the person's competence regarding personal hygiene and whether these factors relate to the potential spread of VRE;
 - 3. the type of direct care the person requires; and
 - 4. the ability of staff to comply with strict hand washing and infection control procedures and environmental hygiene.
- D. The team recommendations/decisions regarding the person's living, day and social situations shall be based upon the following considerations:
 - 1. Individuals infected with VRE may share a bedroom with a low-risk roommate (i.e., one who does not have tubes, catheters, wounds or decubiti, intravascular lines, and/or is not immuno-compromised) or with another VRE positive individual.
 - 2. VRE positive individuals can be considered for a private room and should not socialize without one-to-one supervision if the person
 - i. has VRE isolated in stool **and** has uncontrolled diarrhea;
 - ii. has VRE isolated from stool and does not understand or cannot/will not cooperate with basic hygiene;
 - iii. has VRE isolated from a wound that cannot be covered or has drainage that cannot be contained.
 - 3. Decisions regarding placement and treatment shall be documented in the individual's record and progress notes.
 - 4. **Individuals with VRE infection or colonization shall not be refused placement/services solely on the basis of his or her VRE status.**
- E. The service provider shall ensure that staff receives training regarding VRE infection including issues and concerns specific to the individual with VRE.

C.Diff

III. Management of the Infected Individual

When an individual living in or receiving services from a Department operated or funded facility or program is diagnosed with C. Diff, the following shall occur:

- A. The individual's physician shall order treatment as necessary. Consultation with an infectious disease specialist may occur as indicated.
 - 1. Treatment with antibiotics may be ordered as indicated for infected persons by their HCP.
 - 2. Management of severe infection may require hospitalization for treatment with antibiotics.
 - 3. Cultures of stool may be recommended by the person's HCP or an infectious disease specialist. **It is customary that two negative cultures indicates the individual is free of infection. The Department will follow that standard.**
- B. The DDS area nurse shall be notified as soon as possible and consulted if necessary.
- C. The service provider in consultation with the person's HCP shall review the health issues specific to the individual and make recommendations and/or decisions regarding home, work, and other activities as appropriate.
Participation in normal living activities shall be encouraged as appropriate for the individual. In making such decisions, the team shall consider:
 - 1. the person's competence regarding personal hygiene and whether these factors relate to the potential spread of C.Diff;
 - 2. the type of direct care the person requires; and
 - 3. the ability of staff to comply with strict hand washing and infection control procedures and environmental hygiene.
- D. The team recommendations/decisions regarding the person's living, day and social situations shall be based upon the following considerations:
 - 1. Individuals infected with C.Diff may share a bedroom with a low-risk roommate (i.e., one who is not immunocompromised or on antibiotics) or with another C.Diff infected individual.
 - 2. C.Diff infected individuals can be considered for a private room and should not socialize without one-to-one supervision if the person
 - A. has C.Diff isolated in stool **and** has uncontrolled diarrhea;
 - B. has C. Diff isolated from stool and does not understand or cannot/will not cooperate with basic hygiene;
 - 3. Decisions regarding placement and treatment shall be documented in the individual's record and progress notes.
 - 4. **Individuals with C. Diff infection shall not be refused placement/services solely on the basis of his or her C. Diff status.**
- E. The service provider shall ensure that staff receives training regarding C. Diff infection including issues and concerns specific to the individual with C.Diff.

IV. Communication and Confidentiality

- A. Information regarding the individual's infection or colonization with MRSA, VRE or C.Diff shall be handled in the same manner as any other medical information.

1. As with all medical information, diagnosis and treatment of MRSA, VRE or C. Diff shall be released to the individual's health providers. Standard medical consent to release information shall be maintained in the individual's record (health or master file).
 2. Information regarding MRSA, VRE or C. Diff infection shall be released to others on a need to know basis and **only** after obtaining the consent of the individual or his or her guardian.
 3. If information cannot be shared due to lack of consent and concerns include potential risk to other individuals, legal advice should be sought.
- B. When the person is being transferred to another setting, advance notification shall be given to ensure appropriate planning if consent has been obtained.

V. Precautions:

A. Standard Precautions

Hand washing and adherence to standard precautions remain the most important measures in controlling the spread of disease, including the spread of MRSA, VRE or C. Diff. Practice of standard precautions includes:

1. Thorough hand washing before donning gloves and immediately after gloves are removed.
2. Thorough hand washing between caring for individuals.
3. Use of gloves when caring for individuals whenever contact with wounds, sores, stool, mucous membranes, or other body substances is anticipated.
4. Use of gowns whenever care activities may generate splashes or sprays
5. Masks and eye protections during any activities that may generate splashes or sprays.

B. Equipment

1. Equipment should be dedicated for the person infected with the bacteria whenever possible (. e.g., thermometers, commodes, toilets etc.), especially when use of disposable equipment is not feasible.
2. Non-dedicated or non-disposable equipment shall be disinfected after every use by or exposure to the individual and prior to use by another individual using an EPA registered disinfectant or bleach solution 1:100dilution. **This is especially true of toilets and bathroom fixtures in the case of C.Diff infection.** A list of effective EPA disinfectants can be found at: www.epa.gov/oppad001/chemregindex.htm or check the DPH Website at: www.Mass.gov/dph and search "MRSA".

C. Housekeeping and Laundry

1. Linens and personal clothing: minimal handling of soiled linens should be stressed. Staff involved in stripping beds or otherwise have direct contact with these materials should wear gowns and gloves. Soiled linens and clothing should be bagged in special soluble laundry bags in the

individual's room then washed with laundry detergent in warm water and dried in a hot dryer.

2. Ensure that personal items and all household surfaces are cleaned and disinfected after every use by or exposure to the individual using an EPA registered disinfectant or bleach solution 1:100 dilution. A list of effective EPA disinfectants can be found at: www.epa.gov/oppad001/chemregindex.htm or check the DPH Website at: www.Mass.gov/dph and search "MRSA".
3. Disposable mop heads and wipes should be used whenever possible when cleaning.
4. Infectious waste should be bagged in the room in which it was created.