

C M H C INFECTION CONTROL MANUAL	Effective Date: 04/19	NUMBER: B-14.17 Page <u>1</u> of <u>5</u>
	Replaces 04/18	
	Formulated: 9/00	
VANCOMYCIN-RESISTANT <i>ENTEROCOCCUS</i> (VRE)		

POLICY:

To provide guidelines for preventing the transmission of Vancomycin-resistant *Enterococcus* (VRE), and procedures for the clinical management and housing of offenders with VRE.

INTRODUCTION:

Enterococci are gram-positive cocci that occur as single pairs or short chains. They grow under both anaerobic and aerobic conditions, and are commonly found in stool. They are normal flora in the human gastrointestinal tract and are adapted to the nutrient-enriched, oxygen-depleted, ecologically complex environments of the oral cavity, gastrointestinal tract and vaginal tract. Vancomycin-resistant enterococci are genetically relatively resistant to all classes of penicillins, cephalosporins, other B-lactams and aminoglycosides. Penicillin combined with gentamicin was once effective against enterococci, but many strains now produce penicillinase, an enzyme rendering penicillin and ampicillin ineffective. Further, enterococci have developed high level resistance to gentamicin which is mediated through production of plasmid-borne aminoglycoside modifying enzymes. The *vanA* gene, which is frequently borne on plasmids or transposons and confers high level resistance to vancomycin, can potentially be conjugally transferred *in vitro* from enterococci to a variety of gram-positive microorganisms, including *Staphylococcus aureus*. Isolates that are resistant to vancomycin are VRE.

VRE and other enterococci can be transmitted directly by patient-to-patient contact or indirectly by transient carriage on the hands of personnel or by contaminated environmental surfaces and patient care equipment. Enterococci can be very persistent on environmental surfaces, requiring exceptionally good infection control and housekeeping practices.

VRE may cause asymptomatic colonization or invasive disease. Although anybody could become colonized, the risk of invasive disease from VRE is associated with serious underlying illness, abdominal surgery and extensive burns. The risk of colonization is increased by prior use of vancomycin or third generation cephalosporins but the colonized state usually clears in several weeks to months without specific treatment. Because of these considerations, VRE are generally not a serious concern outside of the medical setting, and colonization with VRE is not a consideration for housing in the general offender population.

C M H C INFECTION CONTROL MANUAL	Effective Date:04/19	NUMBER: B-14.17 Page <u>2</u> of <u>5</u>
	Replaces: 0 4 / 1 8	
	Formulated: 9/00	
VANCOMYCIN-RESISTANT <i>ENTEROCOCCUS</i> (VRE)		

DEFINITIONS:

VRE infection is generally marked by clinical consequences such as fever, elevated WBC count, evidence of wound separation and/or tissue destruction, with appropriate positive cultures for VRE. Clinical manifestations may be altered in immunocompromised patients.

VRE colonization is defined as the presence of the organism but without the clinical manifestations of infection such as tissue destruction, fever, etc. Colonization is not an indication for hospital admission; however, a colonized patient may be admitted if (s) he needs hospitalization for another reason. Because the slightest delay can lead to further spread of VRE and complicate control measures, all clinical staff should be immediately notified when an inpatient is known or suspected to have VRE infection or colonization.

PROCEDURES:

I. Identification

- A. When an offender is identified to be colonized or infected with VRE, the diagnosis must be entered on the Master Problem List, and medical alert code 0412 recorded on the mainframe MEDI screen.
- B. No screening for VRE is necessary except as outlined elsewhere in this policy.

II. General Isolation Procedures

- A. Inpatients who are infected or colonized with VRE should be placed in a single room or in a room with other patients who have VRE, under **contact isolation**. This includes patients who have previously been identified as colonized and are readmitted without having been documented to have cleared of colonization.
- B. Wear clean nonsterile gloves when entering the room of a VRE colonized or infected patient, because VRE can extensively contaminate the environment.
- C. Wear a gown whenever entering the room even if you will not have contact with the patient.
- D. Dedicate the use of non-critical items (stethoscope, sphygmomanometer or thermometer) to a single patient or cohort of patients infected or colonized with

C M H C INFECTION CONTROL MANUAL	Effective Date: 04/19	NUMBER: B-14.17 Page <u>3</u> of <u>5</u>
	Replaces 04/18	
	Formulated: 9/00	
VANCOMYCIN-RESISTANT <i>ENTEROCOCCUS</i> (VRE)		

VRE. If such devices are to be used on other patients, adequately clean and disinfect these devices first.

1. Daily, routine cleaning must be done in all patient areas to reduce bacterial load, with a disinfectant registered with the EPA (i.e., Double D) and performed in a sanitary manner as is done in all rooms regardless of the presence of VRE.
2. Linen should be handled using universal precautions and include the following:
 - a. Wear gloves when handling grossly soiled linen.
 - b. Remove linen carefully from the bed. Hold away from clothing. Do not sort.
 - c. Place the linen in a bag at the site of collection. If the linen is placed in a plastic-lined hamper, the hamper must have a tight-fitting lid.
3. Contaminated linen and clothing should be handled as contaminated laundry.

III. Exceptions to strict contact isolation

- A. VRE colonized or infected patients may leave their isolation rooms for certain activities if they meet the criteria given below. The allowed activities are:
 1. Diagnostic testing or treatment, such as physical therapy
 2. Visitation
 3. Use of the day room
 4. Other activities that medical staff authorize
- B. To be eligible for these relaxed infection control guidelines, the patients must meet the following criteria:
 1. No drainage that cannot be completely and securely contained within a dressing for the entire duration of the time out of the room.
 2. No fecal or urinary incontinence.
 3. Skin is clean and free of secretions or body fluids.
 4. Patient able and willing to follow directions to practice good hygiene and avoid contact with other offenders.
- C. When the patient leaves his/her room they must:
 1. Wear a fresh, clean gown or set of prison clothing
 2. Wash hands thoroughly
 3. Not have contact with other offenders
 4. They should sit in a specified chair or a bench not shared by other offenders
- D. No special cleaning or disinfection is required in the dayroom, radiology department, physical therapy department, etc., after use by one of these patients unless there has been contamination by wound drainage or body fluids.

C M H C INFECTION CONTROL MANUAL	Effective Date: 04/19	NUMBER: B-14.17 Page <u>4</u> of <u>5</u>
	Replaces 04/18	
	Formulated: 9/00	
VANCOMYCIN-RESISTANT <i>ENTEROCOCCUS</i> (VRE)		

- E. These patients may be transported by van or chain bus if necessary and their clinical condition permits.
- F. If an offender cannot follow these criteria, they must either stay in their room or be under direct supervision whenever they are out of their room. If a patient must be moved by wheelchair or gurney when they leave their room, the wheelchair or gurney must be covered by a clean sheet, the attendant must wear appropriate PPE including gloves at a minimum, and the wheelchair or gurney must be disinfected after use. These precautions also apply to patients who are incontinent or who have uncontained drainage who must be transported for essential diagnostic testing or treatment. Patients who require these precautions are not suitable candidates for chain bus transportation.

IV. Monitoring infected or colonized patients

- A. Inpatients known to have VRE colonization or infection should have cultures done for VRE every 3-4 weeks while hospitalized and cultures remain positive. This also applies to dialysis patients with positive cultures for VRE. At a minimum, cultures should be obtained from any appropriate clinical sites (wound infections, catheter sites, etc.) and from a rectal swab. Once cultures return negative for VRE, they should be done at weekly intervals until all cultures are negative for VRE for three consecutive weeks.
- B. When a patient has had three consecutive weeks of negative VRE cultures, they should be considered cleared of their infection and/or colonization. The MEDI screen should be updated to remove the medical alert code (0412).
- C. Patients may be discharged when clinically indicated, even if the VRE infection/colonization has not been cleared.
- D. If a patient is discharged before being cleared of VRE, no culturing is necessary as an outpatient. If the offender is readmitted, he should be considered a VRE carrier, and contact isolation and monitoring cultures be initiated. If an offender is discharged before three consecutive weeks of negative cultures can be obtained, but has three readmissions with negative cultures obtained on admission, he can be considered cleared of the colonization.
- E. Environmental cultures for VRE are not necessary and should not be done unless requested by the Office of Public Health.

V. Housing

- A. In general, no special housing is required for persons colonized with VRE, when they are not in an inpatient or long-term care setting.
- B. **Colonized** patients *may* be put in special housing if their behavior or symptoms

C M H C INFECTION CONTROL MANUAL	Effective Date: 04/19	NUMBER: B-14.17
	Replaces 04/18	Page <u>5</u> of <u>5</u>
	Formulated: 9/00	
VANCOMYCIN-RESISTANT <i>ENTEROCOCCUS</i> (VRE)		

- are such that they are likely to transmit VRE to those who are immunocompromised or otherwise at high risk of becoming colonized with VRE.
- C. **Infected** patients who are in general population should be single celled until all drainage has stopped. Draining wounds must be kept covered with a dressing. Once the drainage has cleared, the offender's cell should be thoroughly cleaned and disinfected.

VI. Education

Healthcare providers should be educated about the transmission of VRE and reminded of strict handwashing procedures.

VII. Reporting

No reporting is necessary of VRE infected or VRE colonized offenders.

Reference: Siegel JD, Rhinehart E, Jackson M, et al. The Healthcare Infection Control Practices Advisory Committee (HICPAC). Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006