

Vancomycin Resistant Enterococci VRE

What is VRE?

VRE stands for vancomycin resistant enterococci. These are bacteria that have developed a resistance to most antibiotics commonly used for enterococcal infections. The antibiotics include vancomycin, aminoglycosides, and ampicillin.

What is the reservoir for VRE?

VRE can affect people in two different ways--colonization or infection. When a person carries VRE as part of their body's normally present bacteria (also known as their normal flora), the person is said to be **colonized**. If a person has an infection that is caused by VRE (such as a blood infection), the person is said to be **infected**.

How does VRE spread from person-to-person?

Because enterococci are part of the normal flora of the gastrointestinal and female genital tracts, most infections with these microorganisms have been attributed to the patient's own flora. People who have been previously treated with vancomycin are at the highest risk for developing VRE.

VRE can also be spread from person-to-person by direct patient-to-patient contact, or indirectly on health care workers' hands, or on contaminated environmental surfaces and patient-care equipment.

Is VRE more of a concern than other infections?

Yes and no. VRE infections are no more virulent than other enterococcal infections, but infections caused by VRE are very difficult, if not impossible, to treat with the antibiotics that are currently available.

What is especially troubling about VRE is that the genetic material that makes the enterococci resistant to vancomycin, the *vanA* gene, can be transferred between enterococci and other kinds of bacteria. If this gene is transferred to *Staphylococcus aureus* bacteria that are resistant to methicillin (MRSA), the result would be a *S. aureus* bacteria that is resistant to all currently available antibiotics.

How can you prevent the spread of VRE?

Guidelines have been established to prevent the spread of vancomycin resistance [Centers for Disease Control and Prevention. Recommendations for Preventing the Spread of Vancomycin Resistance: Recommendations of the Hospital Infection Control Practices Advisory Committee (HICPAC). *MMWR* 1995;44 (No. RR-12)]. These

are to be implemented in addition to, not as a substitute for, standard precaution procedures. Each hospital needs to be familiar with the guidelines for the prevention of vancomycin resistance and establish a policy that reflects their unique needs.

The principle recommendations advocate: 1) the prudent use of vancomycin; 2) an ongoing education program for all hospital staff about the problem of VRE; 3) a cooperative effort between health care providers and hospital microbiology laboratory personnel that will allow VRE to be promptly and accurately detected; and, 4) the implementation of appropriate infection-control measures to prevent person-to-person spread of VRE.

Patients who are known to carry VRE need to be educated about their condition as VRE colonization may continue for long periods of time. Patients may need to be discharged from hospitals to long term care facilities or other institutions while they are still colonized with VRE. In such cases, there needs to be open communication between infection control personnel at both facilities to minimize the risk of further VRE spread.

Where can I get more information?

- Your personal doctor.
- Your local health department listed in your telephone directory.
- The Utah Department of Health, Bureau of Epidemiology (801) 538-6191.

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