

Vancomycin-resistant Enterococci (VRE)

What is Vancomycin-resistant Enterococci?

Enterococci are bacteria that are normally present in the human intestines and in the female genital tract and are often found in the environment. These bacteria can sometimes cause infections. Vancomycin is an antibiotic that is often used to treat infections caused by enterococci. In some instances, enterococci have become resistant to this drug and thus are called vancomycin-resistant enterococci (VRE). Most VRE infections occur in hospitals.

How is VRE spread?

In healthcare settings, contaminated hands often pass VRE person-to-person. VRE can “hitch a ride” on healthcare workers’ (HCW) hands after they have contact with patients who have VRE or after contact with VRE-contaminated surfaces. VRE can also be spread to a person who touches surfaces that are contaminated with VRE. People who are colonized (bacteria are present, but have no symptoms of an infection) can also spread VRE. VRE is not spread through the air by coughing or sneezing.

What types of infections does VRE cause?

VRE can live in the human intestines and female genital tract without causing disease (often called colonization). However, it can, sometimes, cause infections of the urinary tract, the bloodstream, or of wounds associated with catheters or surgical procedures.

Are certain people at risk of getting VRE?

Information collected by the Centers for Disease Control and Prevention during 2006 and 2007 showed that enterococci caused about 1 of every 8 infections in hospitals and only about 30% of these are VRE. The following persons are at an increased risk becoming infected with VRE:

- persons who have been previously treated with the antibiotic vancomycin or other antibiotics for long periods of time
- hospitalized patients, particularly those receiving long-term antibiotic treatment
- persons with weakened immune systems, such as patients in Intensive Care Units, or in cancer or transplant wards
- persons who have undergone surgical procedures, such as abdominal or chest surgery
- persons with medical devices that stay in for some time (e.g., urinary/central IV catheters)

What is the treatment for VRE?

Patients who are colonized (bacteria are present, but have no symptoms of an infection) with VRE do not usually need treatment. Most VRE infections can be treated with antibiotics other than vancomycin. Laboratory testing of the VRE can determine which antibiotics will work. For people who get VRE infections in their bladder and have indwelling urinary catheters, removal of the catheter when it is no longer needed can also help get rid of the infection.

How can VRE be prevented in the healthcare setting?

CDC’s recommendations for preventing transmission of VRE in the healthcare setting consist of standard precautions, which should be used for all patient care. In addition, CDC recommends contact precautions when the facility deems the VRE to be of special clinical and epidemiologic significance. The components of contact precautions may be adapted for use in non-hospital healthcare facilities, especially if the patient has draining wounds or difficulty controlling body fluids.

In addition to standard and contact precautions, the following procedures also may be considered for non-hospital healthcare facilities:

- Patient placement - Place the patient in a private room, if possible. When a private room is not available, place the patient in a room with a patient who is colonized or infected with the same organism, but doesn't have any other infection (cohorting). Another option is to place an infected patient with a patient who doesn't have risk factors for infection.
- Patient placement in dialysis facilities - Dialyze the patient at a station with as few adjacent stations as possible (e.g., at the end or corner of the unit).
- Group activities - It is extremely important to maintain the patient's ability to socialize and have access to rehabilitation opportunities. Infected or colonized patients should be permitted to participate in group meals and activities if draining wounds are covered, bodily fluids are contained, and the patients observe good hygienic practices.

The following are recommended for prevention of VRE in hospitals and may be adapted for use in non-hospital healthcare facilities:

- Obtain stool cultures or rectal swab cultures of roommates of patients newly found to be infected or colonized with VRE.
- Adopt a policy for deciding when patients can be removed from isolation (e.g., VRE-negative results on at least three consecutive occasions, one or more weeks apart.)
- Consult health departments regarding discharge requirements for patients with VRE.

The following are some things you can do to prevent the spread of VRE:

- Always practice good hand hygiene.
 - Clean your hands after contact with persons who have VRE. Wash with soap and water (particularly when visibly soiled) or use alcohol-based hand rubs.
 - Always wash your hands after using the bathroom and before handling food.
- Keep areas such the bathroom and other areas that can become contaminated with VRE clean and disinfected.
- Wear gloves if you may come in contact with body fluids that may contain VRE, such as stool or bandages from infected wounds. **Always** wash your hands after removing gloves.

For more information regarding VRE, visit the following resource:

- <http://www.cdc.gov/HAI/organisms/vre/vre-infection.html>