

Staphylococcus aureus with intermediate or complete resistance to vancomycin (VISA/VRSA)

What is VISA? What is VRSA?

VISA stands for *Staphylococcus aureus* with intermediate resistance to vancomycin. VRSA stands for *S. aureus* with complete resistance to vancomycin. It is probable that *S. aureus* bacteria with intermediate or complete resistance to vancomycin would be resistant to most antibiotics commonly used for staphylococcal infections.

No laboratory has ever isolated VRSA from a patient, and, as of April 1998, VISA has only been isolated three times in the United States and once in Japan. None of the VISA isolates came from Utah.

What is the reservoir for VISA/VRSA?

Currently neither VISA nor VRSA has been found to be a widespread problem in the United States or in the rest of the world. Active surveillance by hospital personnel will continue to be critical, however, for the early detection and subsequent control of staphylococci with decreased susceptibility to vancomycin.

If VISA/VRSA aren't a widespread problem, why are we worried about them?

Methicillin resistant *S. aureus* (MRSA) and vancomycin resistant enterococci (VRE) are already found in many hospitals and long term care facilities. Vancomycin is often the only antibiotic that can be used to treat patients with MRSA, since MRSA bacteria are usually resistant to all other kinds of antibiotics. We know that the genetic material that makes VRE resistant to vancomycin, the *vanA* gene, can be transferred from the enterococci to other kinds of bacteria. If this *vanA* gene was to be transferred to MRSA bacteria, the end result would be *S. aureus* bacteria that are resistant to virtually all of our currently available antibiotics.

How could VISA/VRSA spread from person-to-person?

VISA/VRSA would be spread from person-to-person in the same way as any *S. aureus* infection. *S. aureus* infections most often spread from person-to-person by **direct** contact. For example, in medical settings staphylococcal infections are often spread from patient to patient on unwashed health care workers' hands.

Are VISA/VRSA more of a concern than other infections?

Yes! The emergence of VISA/VRSA would signal the introduction of bacteria that are resistant to all currently available antibiotics. While the bacteria themselves may not be any more virulent than other staphylococcal infections, VISA/VRSA infections would be very difficult to treat. It is encouraging to note that experimental therapeutics are in development that appear to be effective treatment for VISA/VRSA, but steps need to be taken to prevent the development of VISA/VRSA.

What can be done to prevent the development of VISA/VRSA?

Guidelines have been established to prevent the spread of vancomycin resistance [Centers for Disease Control and Prevention (CDC). Recommendations for Preventing the Spread of Vancomycin Resistance: Recommendations of the Hospital Infection Control Practices Advisory Committee (HICPAC). *MMWR* 1995; 44 (No. RR-12)]. Each hospital needs to be familiar with the guidelines for the prevention of vancomycin resistance and establish a policy that reflects their unique needs.

Decreasing the likelihood that VISA/VRSA will emerge in the United States will depend, in part, on actions taken now to prevent the spread of vancomycin resistance in health-care facilities. Methods to prevent the spread of vancomycin resistance include the prudent use of vancomycin and regular infection-control measures such as health-care worker handwashing. Handwashing, by lathering up with soap for at least 20 seconds and rinsing with warm running water, is a valuable step in preventing the spread of any staphylococcal infection.

Active surveillance will continue to be critical for the early detection and subsequent control of staphylococci with decreased susceptibility to vancomycin. The CDC is working closely with hospitals and state health departments to assure prompt identification and reporting of any isolates of VISA/ VRSA. Health care workers who believe they have identified patients infected with VISA/VRSA are asked to notify the CDC Hospital Infections Program (404-639-6413) and to send the organism to the Utah Department of Health state public health laboratory so it can be forwarded to the CDC for confirmatory testing.

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.
- The Centers for Disease Control and Prevention, Hospital Infections Program, (404) 639-6413.

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This fact sheet was based on the Centers for Disease Control and Prevention's Recommendations for Preventing the Spread of Vancomycin Resistance: Recommendations of the Hospital Infection Control Practices Advisory Committee (HICPAC). *MMWR* 1995; 44 (No. RR-12) and *Staphylococcus aureus* with decreased susceptibility to vancomycin sheet-June 1997 (<http://www.cdc.gov/ncidod/hip/vrsa.htm>).