

Nevada State Health Division – Office of Epidemiology

Vancomycin-Intermediate *Staphylococcus aureus* (VISA) Vancomycin-Resistant *Staphylococcus aureus* (VRSA)

On May 6, 2010, the CDC sent an advisory letter to all clinical laboratories and infection control practitioners about reported cases of Vancomycin Resistant *Staphylococcus aureus* (VRSA). Since 2002, there have been 11 confirmed VRSA cases reported in the United States (the most recent case was reported in April 2010). The Nevada State Health Division would like all laboratories and healthcare providers in the state to be aware of VISA and VRSA, and what actions they need to take if they encounter a possible case.

Vancomycin Intermediate *Staphylococcus aureus* (VISA) and Vancomycin Resistant *Staphylococcus aureus* (VRSA) are defined as *S. aureus* obtained from any body site and:

- **VISA:** Intermediate resistance of the *S. aureus* isolate to vancomycin, detected and defined according to Clinical and Laboratory Standards Institute (CLSI) approved standards and recommendations (Minimum Inhibitory Concentration [MIC]=4-8 µg/ml).
- **VRSA:** Resistance of the *S. aureus* isolate to vancomycin, detected and defined according to Clinical and Laboratory Standards Institute (CLSI) approved standards and recommendations (Minimum Inhibitory Concentration [MIC] ≥16 µg/ml).

The 11 cases of VRSA reported in the United States thus far have been identified in Michigan, Pennsylvania, New York, and Delaware. The average age of cases was 56 (range of 40 to 78). The sites of infection in most cases were surgical/nonsurgical wounds (n=7) and plantar ulcers (n=3). The most common underlying conditions in these patients were diabetes (n=8), obesity (n=4), chronic skin ulcers (n=3), and dialysis/ESRD (n=3).

A few existing factors seem to predispose case patients to VRSA infection, including:

- Prior MRSA and enterococcal infections or colonization
- Underlying conditions (see above)
- Previous treatment with vancomycin

Because of exchange of genetic material from vancomycin-resistant enterococci (VRE) to methicillin-resistant *Staphylococcus aureus* (MRSA) in the emergence of VRSA, CDC is asking clinical laboratories, when patients are identified with suspected or confirmed VRSA, to ensure that all VRE, MRSA, and VRSA isolates from these patients are saved. Following confirmation of VRSA, it is recommended that all three isolate types (i.e., VRE, MRSA, and VRSA) be shared with the Nevada State Public Health Laboratories, and CDC. Isolates of VISA (and if available VRE and MRSA from the same patient) should also be saved, and sent to the Nevada State Health Laboratory for follow-up testing.

VRSA infection continues to be a rare occurrence. All cases of both VISA and VRSA should be immediately reported to your local public health jurisdiction (see below). In addition, if the case is identified in a medical care facility, the infection control department should be notified. Public Health Departments and Infection Control Departments can take steps to identify and prevent additional cases of VISA and VRSA.

Further Information

Centers for Disease Control and Prevention:

http://www.cdc.gov/ncidod/dhqp/ar_visavrsa.html

2010 CDC Advisory:

<http://www.health.ri.gov/materialbyothers/201005CDCAdvisoryVRSA.pdf>

Laboratory Algorithm:

http://www.cdc.gov/ncidod/dhqp/ar_visavrsa_algo.html

Reporting of Cases:

- Clark County:
 - 702-759-1300
- Washoe County:
 - 775-328-2447
- Carson City, Douglas, Lyon Counties:
 - 775-887-2190
- All Other Counties or States:
 - 775-684-5911