

Protocol for Clinical Laboratories with a Possible Vancomycin Intermediate or Resistant *Staph aureus* (VISA/VRSA)

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One of the most common problems we find with isolates that do not confirm as VISA or VRSA is that the isolate is not a *Staph aureus* or is not a pure isolate. To prevent an erroneous report of VISA/VRSA, please verify the identification of the isolate prior to submission to UHL for confirmation.

1. Verify the purity of the isolate by closely inspecting the purity plate inoculated during your automated panel setup.
2. Verify the identification of the isolate in the panel by performing a Gram stain, catalase and coagulase from the purity plate inoculated during your automated panel setup.
3. If you are using Vancomycin screen plates for all *Staph aureus*:
 - a. verify that you are following the package insert instructions for inoculation to prevent a heavy inoculum from exhibiting growth and being misinterpreted as resistance.
 - b. Verify the purity and identification of the organism growing on this plate by performing Gram stain, catalase and coagulase from this plate.
 - c. Remember that the concentration of vancomycin in these plates is at 6ug/ul and will not detect those *Staph aureus* isolates with an MIC of 4 ug/ul.
4. If you can verify the purity and identification of the organism as *Staph aureus*:
 - a. Call UHL Bacteriology (319-335-4335) to notify us of your intent to submit this organism for confirmation of decreased susceptibility to vancomycin. We will verify certain information and provide instructions for shipment. We also need you to make this call so we can subculture the appropriate QC organisms and start testing on the day the organism arrives.
 - b. Notify your Infection Control department and the physician of a POTENTIAL VISA/VRSA. Tell them you are sending the isolate to UHL for confirmation.
 - c. Call IDPH to inform them of a POTENTIAL VISA or VRSA. Tell them you are sending the isolate to UHL for confirmation.
 - d. Use the [Invasive Disease Reporting/Antibiotic Resistance Surveillance test request form](#). Please print the form from the website to ensure that you have the latest version. Fill out the form completely (selecting VISA/VRSA under the Organism section) and attach a copy of your susceptibility results and any additional information you feel is pertinent. Section B of the form should be completed with any information available to you. If you do not have any of this information, section B is optional. Gathering data on the epidemiology of these isolates is important and any information you can provide is helpful.
 - e. CDC wants only isolates that display unusual susceptibility patterns and we will forward the isolate to them if necessary. If this happens you will see a "pending" reference lab test on your report. We will forward the CDC results to you when we receive them.

Another reason that isolates may not confirm as VISA/VRSA at UHL is due to serial subculturing of the isolate. Upon subsequent subcultures, VISA/VRSA isolates may lose the gene for decreased susceptibility to vancomycin. To avoid this situation:

Please submit the purity plate from your susceptibility panel, the vancomycin screening agar plate, and/or the original plate on which the *Staph aureus* was identified. Any or all of these will work-the less the organism was subcultured the better.