



Danbury Hospital
Department of Pathology & Laboratory Medicine
Technically Speaking

C.S.Guidess, Editor

November, 2007

Issue #: Vol.1, No.6

Methicillin Resistant Staphylococcus aureus (MRSA) Polymerase Chain Reaction (PCR) Assay Available

Laura Ovittore, BS, MT (ASCP)

The Laboratory is pleased to announce the availability of the Xpert MRSA assay, a qualitative polymerase chain reaction (PCR) in-vitro diagnostic test for the rapid detection of Methicillin Resistant Staph aureus (MRSA) from nasal swabs in patients at risk for nasal colonization. The Cepheid Xpert MRSA assay is an automated real-time polymerase chain reaction (RT-PCR) to detect MRSA DNA, performed in the GeneXpert DX System. The test will be available, STAT, 24/7, for inpatient and emergency room patients with a maximum TAT of 2 hours. Outpatient requests will be available with a maximum TAT of 24 hours.

Staphylococcus aureus is a major nosocomial pathogen that causes a wide range of diseases including endocarditis, osteomyelitis, toxic shock syndrome, food poisoning, carbuncles and boils. Acquisition and spread of beta-lactamase producing plasmids thwarted the effectiveness of penicillin as the treatment of choice for Staphylococcus infections and after the introduction of methicillin as an alternative treatment in 1959, strains of MRSA were identified approximately one year later. Methicilin resistance is the result of the S. aureus organism acquiring the mecA gene.

Today, MRSA is associated in approximately 25% of nosocomial infections and reports of community acquired MRSA are on the increase, resulting in significant morbidity and mortality. In an attempt to limit the spread of MRSA infections, various strategies and policies are being implemented in healthcare settings. The Xpert MRSA assay is intended to aid in the prevention and control of MRSA infections. Controlling MRSA in healthcare settings has become the focus of many hospital infection control programs. Implementation of the Xpert MRSA assay will allow for a more timely and sensitive method for surveillance of MRSA versus the standard culture surveillance methods currently available, which are very laborious and time intensive.

SPECIMEN REQUIREMENTS AND COLLECTION:

A nasal swab must be collected using the COPAN transport swab (a double culturette system) available from the laboratory. As this transport swab resembles other swabs currently available it is important to verify that the correct swab has been selected. The COPAN transport swab is enclosed in a green package with the name COPAN on the outside labeling and also on the culturette itself.

Collection of nasal samples: after removing the culturette from its packaging: insert dry swabs 1-2 cm into first nostril and rotate the swab against the inside of the nostril for 3 seconds. Using the same swab, repeat for the second nostril, making sure not to touch anything but the inside of the nose. Remove the cap from the plastic transport tube and place the collected swab into the transport tube. Make sure the red cap is on tightly. Store swab at room temperature until delivery to the laboratory. If swab cannot be delivered to the laboratory within 24 hours, the swab must be stored at 2 - 8°C.

TEST REQUESTS:

Requests for this assay must be written as MRSA SCREEN.

EXPECTED RESULTS:

Results will be reported as Positive or Negative for MRSA – test performed via Cepheid GenXpert.

If a positive result has been reported and there is a need for concomitant cultures to recover the organism to perform epidemiological typing or susceptibility testing, the Molecular Laboratory must be contacted at 739-7390 or the Microbiology Laboratory at 739-7305 within 72 hours of initial specimen collection.

Correction:

In the last issue, Vol 1, No 5. Please note that 2 phone numbers were listed incorrectly:

Dr. Jeffrey West may be reached at 203-739-8138 and Dr. Hani El-Fanek may be reached at 203-739-8137. Our apologies for any confusion.

Danbury Hospital, Dept. of Laboratory Medicine
24 Hospital Ave., Danbury CT 06810
Client Services Rep: 739-7800. Specimen Pickup: 739-7306