

Under the Microscope

2009 Winter/Spring Newsletter

► New Patient Draw Centers in Layton and Sandy

INTERMOUNTAIN LABORATORY SERVICES

announces the opening of two new outpatient draw centers, one located at the Intermountain Layton Health Center and the second at the Life Centre in Sandy, adjacent to the Alta View Hospital campus.

Both draw stations are designed and operated to

accommodate patients referred for specimen collection from physicians in their respective communities. Each location has ample capacity to keep wait times to a minimum and assist patients with their laboratory needs in a



Hospital Administrators and Lab Managers greet guests at Sandy Life Centre Draw Station Open House

convenient and professional manner. The new Layton draw center is located at 2075 North 1200 West. Phone: 801-779-6379. The new Sandy Life Centre location is at 9844 South 1300 East, Suite 230. Phone: 801-553-3278.

► Laboratory Detection of Respiratory Viruses

RESPIRATORY VIRUSES CONSTITUTE A MAJOR

health issue across the nation. During winter months, testing for respiratory syncytial virus (RSV), parainfluenza, influenza A and B, adenovirus, human metapneumovirus (hMPV), enterovirus and rhinovirus can bring on additional challenges to practitioners, patients and laboratory personnel. The Centers for Disease Control and Prevention (CDC) estimates

that 5% - 20% of the national population contracts flu every year, accounting for 200,000 hospitalizations and approximately 36,000 deaths (mainly children younger than 2 years of age and immunocompromised patients). Moreover, almost all children will have had RSV infections by their second birthday, with 0.5% - 2% requiring hospitalization.

In as much as there have been articles published in the *New England Journal of Medicine* suggesting patients are frequently under diagnosed and under reported for RSV and influenza; due in large part to misunderstandings of available testing modalities and specimen requirements for the diagnosis of respiratory viruses, it becomes incumbent upon the laboratory to provide education and information to practicing clinicians regarding currently available testing methods, appropriate specimen collection and specific ordering information to assist with the accurate and timely diagnosis of respiratory viruses (see charts below).

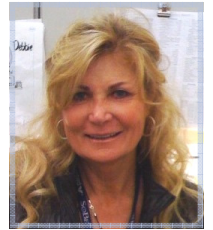
RSV	
Method:	Rapid EIA Screen
Test Information:	Most rapid assay for RSV. FDA approved for children 5 years and younger. Least sensitive and specific method. May produce false positives during non-respiratory virus season. May produce false negatives during all seasons. All negatives should be confirmed by PCR.
Specimen Requirements:	Nasopharyngeal washes, aspirates or swabs.
Remarks:	Aspirates and Washes: Collect and transport in suitable liquid transport system (i.e. sterile urine cup). Use 2-3 mL saline to perform wash or aspirate. % Sens/Spec: 89/93. Swabs: Swab must be Dacron-polyester or rayon-tipped with aluminum wire shaft. Place swab into media in transport tube for transport to lab. % Sens/Spec: 83/87. Washes and aspirate are preferred over swabs. Do not centrifuge before testing.
Transport:	Transport wash, aspirate or swab.
Stability:	Refrigerated: 2 days Frozen: 1 week
Performed: Daily	CPT: 87807 Order Code: RSVX

Respiratory tests continued from previous page:

► Lab Management Spotlight

DEBBIE BENNION, MS MT CLSp(MB) IS THE SUPER-

visor of the Molecular Pathology, Immunology and Virology departments at Intermountain Central Laboratory. She has worked for Intermountain Healthcare since



1972, where she helped develop the original admitting laboratory at LDS Hospital.

Beginning in 1978, she worked in Immunology and Infectious Disease until the advent of Molecular Laboratory Diagnostics, which uses powerful molecular testing techniques for infectious disease and human genetics. Her path and passion has focused on novel DNA and RNA diagnostics. Encouraged by the visions of Elizabeth Hammond, MD and John Carlquist, PhD, Debbie helped develop one of the few hospital-based molecular pathology laboratories in the country. This laboratory, formerly based at LDS Hospital, is now located at the Central Laboratory on the campus of Intermountain Medical Center.

Since its inception, the Molecular Pathology laboratory has grown from two to twenty-six employees and from four DNA-based tests per year to well over 100,000 currently. Debbie continually promotes new molecular diagnostic technologies aimed at supporting clinicians' efforts to improve patient outcomes.

When not at work, Debbie fills her favorite roll as the very proud mother of three sons. She has one granddaughter, Kaitlin, who she describes as "wonderful and perfect". She and her husband Robert enjoy boating at Lake Powell, running, biking, hiking, and reading. Debbie has a BS in Molecular Laboratory Technology, a Masters in Health Care Administration, and is just completing a PhD dissertation.

For more information regarding respiratory virus detection or any other molecular tests performed at Intermountain, please contact Debbie at debbie.bennion@imail.org or 801-507-2243.

INFLUENZA A&B VIRUS ANTIGEN (A&B VIRUS DIFFERENTIATED)	
Method:	Rapid EIA Screen
Test Information:	Most rapid assay for Influenza A & B. FDA approved for children and adults. Lower sensitivity in adults than in children. May produce false positives during non-respiratory virus season. May produce false negatives during all seasons. All negatives should be confirmed by PCR.
Specimen Requirements:	Nasopharyngeal washes, aspirates, or swabs.
Remarks:	Aspirates and Washes: Collect and transport in suitable liquid transport system (i.e. sterile urine cup). Use 2-3 mL saline to perform wash or aspirate. % Sens/Spec: 89/95. Swabs: Swab must be Dacron-polyester or rayon-tipped with aluminum wire shaft. Place swab into media in transport tube for transport to lab. % Sens/Spec: 60/90. Washes and aspirates are preferred over swabs.
Transport:	Transport refrigerated as soon as possible.
Stability:	Refrigerated: 48 hours Frozen: 1 week
Performed:	Daily CPT: 87400 x 2 Order Code: INAAB

DFA VIRUS PANEL	
Includes:	RSV, Adenovirus, Influenza A & B, Para Influenza (1,2,3) Metapneumovirus
Method:	Direct Fluorescent Antibody (DFA)
Test Information:	Less sensitive than PCR. % Sen/Spec: 70/90 compared to PCR. Subjectivity may lead to false positives and negatives. Detects fewer viruses than PCR. All negatives are confirmed by PCR.
Specimen Requirements:	Nasal washes and nasopharyngeal or tracheal aspirates are the specimens of choice. Respiratory secretion aspirates are also acceptable.
Remarks:	This assay will detect Respiratory Syncytial Virus (RSV), Adenovirus, Influenza A, Influenza B, and Para-influenza virus from respiratory specimens. It is necessary to perform a respiratory viral culture for confirmation on all negative specimens and on all specimens that are DFA positive for Parainfluenza. Nasopharyngeal and throat swabs are unacceptable.
Transport:	Transport specimen immediately after collection.
Stability:	Ambient: Unacceptable Refrigerated: Process as soon as possible Frozen: Unacceptable
Performed:	Daily CPT: 87300 Order Code: RVST

PCR VIRUS PANEL	
Includes:	RSV, Adenovirus, Influenza A & B, Para Influenza (1,2,3) Metapneumovirus, Rhinovirus, Enterovirus
Method:	Polymerase Chain Reaction (PCR)
Test Information:	Confirmatory assay for rapid screen test and DFA. Most sensitive and specific method for the detection of respiratory virus. More sensitive than virus culture. % Sens/Spec: 99/98.
Specimen Requirements:	Nasal washes or aspirates, nasal pharyngeal swab (NP swab), bronchial alveolar lavage (BAL), sputum
Performed:	Mon.- Sun. CPT: 87801 Order Code: RVPCR