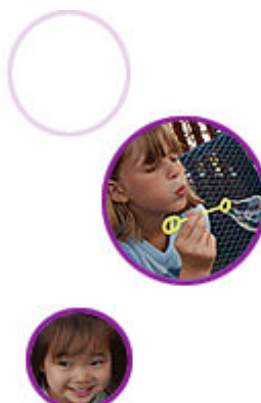
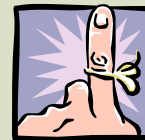


CHILDLAB

700 Children's Drive
Room: TX278
Columbus, OH 43205



ChildLink Reminder



When ordering laboratory tests in **ChildLink**, ChildLab's online test ordering system, you must make sure you choose the correct billing type before submitting the patient's order.

- If you want the patient's insurance company to be billed, choose the **Insurance** option.
- If you want the patient to be billed, choose the **Patient** option.
- If you want your office to be billed, choose the **Account** option.

It is good practice to review the printed requisition to make sure the insurance information is correct. If you do not see the insurance information, it usually indicates you had chosen an incorrect billing type.

Help Us Help You...



As a reminder, ChildLab would like to emphasize the importance of using **military time** when recording the collection time on patient specimens and requisitions.

If 'A.M.' or 'P.M.' is not noted after recording civilian time on a specimen or requisition, it can often be mistaken for the wrong time of day. Using military time can help alleviate this problem which will result in accurate reporting and prompt turnaround time of your patient's lab results.

Please call ChildLab Client Services at 614-722-5477 or 800-934-6575 if you would like to obtain a laminated conversion chart of 'Civilian to Military Time'.

New Doctor or Practitioner in Your Practice?

Your ChildLab Account Representative would like to hear from you when new doctors or practitioners join your staff. Recording this information in ChildLab's database, ensures prompt turnaround time of patient's lab reports to them.

CHILDLAB



WINTER 2008 / 2009

ChildLab Links

Reflecting Time...



♥ Choosing the Right Test for Respiratory Virus Infection is Essential

There may be times when it is important to detect RSV or other respiratory viruses in the outpatient setting. ChildLab recommends a posterior nasopharyngeal (NP) swab collection and an order of the **Respiratory Viruses Antigen** test by the direct fluorescent antibody (DFA) technique to detect RSV, Influenza A/B, Parainfluenza 1, 2, and 3, Adenovirus, and Human Metapneumovirus.

In this test, specific viruses are detected by first staining the infected respiratory epithelial cells from the patient with a fluorescent-labeled antibody to the virus(es) and then viewing the stained cells under the microscope for specific fluorescence. It is important that the NP swab collection be done properly to ensure collection of an adequate number of respiratory epithelial cells for staining. After collection, the NP swab tip is cut off into M-4 viral transport medium and transported to ChildLab.

Viral DFA/culture collection kits with swabs, M-4 transport medium, and collection instructions are available by calling ChildLab Client Services at (614) 722-5477 or (800) 934-6575. The respiratory viruses antigen test by DFA is offered seven days a week during dayshift. The expected turnaround time for DFA testing at ChildLab is less than 24 hours. Physicians may order testing for influenza A and B or for RSV only by DFA instead of the complete respiratory viruses antigen test; DFA for influenza or RSV shows increased sensitivity compared to rapid point-of-care tests for these agents.

<u>Test</u>	<u>Virus</u>	<u>Approx. Test Sensitivity</u>
DFA	RSV	95% - 95%
	Influenza A/B	80% - 85%
	Parainfluenza 1, 2, 3	75% - 80%
	Adenovirus	60% - 70%
	Human Metapneumovirus	60% - 70%

♥ Check out our weekly Community Respiratory Pathogens Report now available on-line at www.ChildLab.com!

Getting weekly positivity rate reports of respiratory pathogens in the central Ohio area is as easy as a click of your mouse!

By visiting www.ChildLab.com you can obtain weekly RSV, Influenza, and Pertussis test data and note respiratory illness trends.

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Test Updates...

♥ Peripheral Blood “Double Negative” T Lymphocytes Evaluation

The Special Hematology Section of ChildLab is now offering an assay to evaluate Double Negative T Lymphocytes (lymphocytes positive for CD3, but negative for both CD4 and CD8). This test is useful in the diagnosis and monitoring of patients with Autoimmune Lymphoproliferative Syndrome (ALPS). ALPS is a rare disorder characterized by non-malignant lymphoproliferation and autoimmune manifestations.

Testing for Double Negative T Lymphocytes will be performed in conjunction with Peripheral Blood T and B Cell Studies.

If you have questions, please contact ChildLab Client Services at 614-722-5477 or 800-934-6575 and ask to be directed to the Flow Cytometry Lab.

♥ New Creatinine Reference Ranges

On October 28, 2008 ChildLab began using a new calibration for creatinine measurement. The switch allows us to match with an internationally accepted reference method of isotope dilution mass spectrometry in accordance with the National Kidney Disease Education Program. Lower reported plasma creatinine concentrations and higher reported creatinine clearances will result. On this date ChildLab began to report creatinine results to two decimal places. Plasma creatinine reference ranges will lower slightly. At higher concentrations of creatinine the difference between our current calibration and the new calibration could be significant.

The conversion equation is:

Current calibration (mg/dL) = New calibration (mg/dL) x 1.065 + 0.067.

Current plasma/serum reference ranges will change as follows:

Age range	Current Range (mg/dL)	New Range (mg/dL)
0-12 months	0.2 - 0.4	0.10 - 0.30
1 year	0.2 - 0.6	0.10 - 0.50
2 years - 7years	0.2 - 0.7	0.10 - 0.60
8 years - 10 years	0.3 - 0.8	0.20 - 0.70
11 years - 12 years	0.3 - 0.9	0.20 - 0.80
13 years - 17 years	0.5 - 1.2	0.40 - 1.10
18 years - Adult	0.6 - 1.3	0.50 - 1.20

Examples of changes at higher creatinines (based on the calculation above):

Current value	New value
5.5	5.10
10.0	9.51

Our current creatinine clearance reference ranges will change as follows:

Age range	Current Range (mL/min/1.73m ²)	New Range (mL/min/1.73m ²)	Current Range (mL/min/1.73m ²)		New Range (mL/min/1.73m ²)	
			Female		Male	
0 -1 year	40 - 65	42 - 71	40 - 65	42 - 71	40 - 65	42 - 71
2 years - 17 years	71 - 137	78 - 154	72 - 176	79 - 198	72 - 176	79 - 198
18 years - Adult	75 - 115	82 - 128	85 - 125	94 - 140	85 - 125	94 - 140

If you have any questions regarding the new creatinine references ranges please contact ChildLab Client Services at 614-722-5477 or 800-934-6575 and ask to be directed to Dr. David Thornton or Terry Justice.

Test Updates...cont.

♥ Discontinuation of Nitrotriazolium Blue Test (NBT) for Chronic Granulomatous Disease

Testing for Chronic Granulomatous Disease (CGD) is now primarily accomplished through ordering the Oxidative Burst Assay (OBA). Oxidative Burst Assay is a flow cytometry-based assay which has largely replaced the old screening method of Nitrotriazolium Blue Test (NBT). Considering this fact, ChildLab no longer offers the NBT test effective Monday, December 1, 2008.

If you have questions regarding this assay or sample requirements, please contact ChildLab Client Services at 614-722-5477 or 800-934-6575 and ask to be directed to the Special Hematology Lab.

♥ *Bordetella pertussis* and *B. parapertussis*

Since November of 2007, ChildLab has offered routine testing for detection of *Bordetella parapertussis* by PCR in tandem with detection of *Bordetella pertussis* by PCR. Testing for both agents by PCR will not require additional posterior nasopharyngeal (NP) swab specimens nor is there any additional cost. Results will be reported separately as positive or negative for *B. pertussis* and *B. parapertussis*.

The clinical diagnosis of pertussis is difficult for a variety of reasons including the frequency with which such organisms as *B. parapertussis*, *Mycoplasma pneumoniae*, or adenovirus can present with signs and symptoms of “atypical” pertussis or “pertussis-like” disease. Over the past several months, ChildLab evaluated the frequency of *B. parapertussis* in NP swab samples submitted for *B. pertussis* testing. Our data indicates that monthly positivity rates for *B. parapertussis* vary from 1- 5%; this compares with monthly positivity rates of 7-12% for *B. pertussis*. Similar evaluations for the detection of *M. pneumoniae* in specimens submitted for the detection of *B. pertussis* are ongoing.

It is extremely important to keep in mind that a positive PCR test on a patient represents the detection of *B. pertussis* DNA in that patient but does not constitute a confirmed case of pertussis as per CDC case definition. **A confirmed case requires a positive culture for *B. pertussis* (currently not offered by our laboratory because of the relative poor sensitivity and long turnaround time) OR a positive PCR in a patient meeting the clinical case definition (patient with unexplained cough illness >2 weeks and/or epidemiologically linked to a confirmed case).** Thus it is extremely important not to overutilize the pertussis PCR test by testing patients who are asymptomatic or who have only a cough of short duration unless there is an epidemiologic link to a case. The detection of pertussis DNA in such an individual could be the result of transient colonization in an immunized individual or a falsely positive laboratory test. In either situation, such a positive laboratory result does **not** define a clinical case of pertussis. Testing should be reserved for patients with a classic presentation of whooping cough or for patients having an unexplained, prolonged cough illness and particularly if there is epidemiologic evidence of a link to a confirmed case.

For questions or comments regarding *Bordetella pertussis* and *B. parapertussis* call ChildLab Client Services at 614-722-5477 or 800-934-6575.

GenProbe Group A Strep Direct Test

GenProbe Group A Strep Direct Test cont...

The following conclusions can be drawn:

- 1) GenProbe is comparable in sensitivity to standard culture for detection of GAS.
- 2) The 15 culture negative, GenProbe positive specimens may represent false-positive GenProbe tests or false-negative cultures or both; we and other investigators are inclined to believe that most of these represent false-negative cultures.

Based on this data as well as literature reports and discussions with colleagues, we feel strongly that the GenProbe Test will improve GAS diagnosis and turnaround time in your practice setting. ChildLab recommends this procedure for your practice as a replacement for routine culture. This change will not require any procedural changes on the part of your staff. They will continue to collect and submit throat swab specimens as usual. Dual throat culture swabs may be obtained through ChildLab Client Services by calling 614-722-5477 or 800-934-6575. ChildLab will call all positives to your office by 10:00 AM, but with the implementation of the GenProbe Test, **all positives and negatives will be finalized by 1:00 PM of the day following collection (<24 hour turnaround from time of specimen receipt in the lab).**

The main limitation of the GenProbe procedure is that potential agents of bacterial pharyngitis other than GAS will not be identified. These (e.g., groups C and G Streptococci) are isolated infrequently and many labs do not screen and report these organisms routinely. In select situations where you want to screen for these agents as well, you may still order a Strep culture alone or with a GenProbe Test.

New Year Resolution

As we begin a new year, ChildLab would like to take the opportunity to remind everyone to always check the expiration dates of your collection containers prior to collecting samples. It is good practice to check your collection supplies on a monthly basis to avoid sample rejections, time taken to recollect the specimen, and delay of treatment.

NOTE: Not sure how to dispose of your O&P and Carey-Blair (stool culture) medias that ChildLab provides? Send them back with the courier to ChildLab's Central Processing with a note stating 'Expired Media - Please Dispose' and we will be happy to dispose of them for you.

For questions regarding media disposal, please call ChildLab Client Services at 614-722-5477 or 800-934-6575.



♥ Detection of group A streptococci with the GenProbe Group A Strep Direct Test

ChildLab offers standard culture based testing of throat swab specimens for the isolation and identification of *Streptococcus pyogenes* (group A streptococci; GAS). The standard throat culture procedure calls for plating the swab specimen onto 2 blood agar plates – one selective and one nonselective. One plate is incubated in an atmosphere of 5% CO₂ and the other anaerobically for up to 48 hours. This combination of media and atmosphere of incubation optimizes the recovery of GAS in the midst of normal oral flora organisms. All beta-hemolytic colonies are further tested to confirm the presence of GAS and also to detect the presence of group C or group G beta-hemolytic streptococci, organisms associated with pharyngitis. Obviously, these procedures take longer to complete than an overnight routine blood agar plate with a bacitracin disk incubated in air; however, sensitivity for the detection of GAS is enhanced significantly. This is particularly important for the types of throat swab specimens often received by ChildLab - specimens from patients who have had **negative** rapid direct strep screens and thus likely to have low numbers of GAS.



In 2006, ChildLab completed a very favorable evaluation of a commercially available, FDA-approved nucleic acid based procedure which can function as an alternative to culture for the definitive detection of GAS in throat swabs. The GenProbe Group A Strep Direct Test identifies the presence of GAS in the specimen by detecting GAS-specific nucleic acids using a probe-hybridization technique; there is **no** culture and incubation involved. The test is instrument-assisted, takes several hours to complete, and thus is **not** useful for GAS detection while the patient is in the office or clinic setting. It is best used as a replacement for culture by batch-testing a group of specimens once or twice a day in a central laboratory facility. The potential advantage of this test for your practice is that all GAS detections can be completed (reported as positive or negative) within 24 hours from the time of collection.

In our study, 308 throat specimens submitted on dual swabs were processed for GAS detection using our standard culture method and GenProbe. Whenever the 2 tests did **not** agree, we performed a second, selective, broth-enhanced culture from residual specimen to resolve the discrepancy. **The results can be summarized as follows:**

- 93 of 308 specimens were GAS culture positive by the first (standard) or second (broth-enhanced) culture method or both (30% prevalence).
- 79 of 93 (85%) were positive by the standard culture method.
- 85 of 93 (92%) were positive by the GenProbe test method.
- 15 culture negative specimens were positive by the GenProbe Test

cont.

ChildLab. Trust in the results.