Celebrating 15 Years in Business

LABlines

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News from LABORATORY ALLIANCE of Central New York, LLC

Pain Management Drug Testing: Part 2

By Michael R. O'Leary, M.D., CEO

Drug testing in the pain management setting is an important tool to supplement self-reporting and clinical monitoring. By verifying adherence to a prescribed medication regimen and by identifying use of non-prescribed drugs, drug testing can discourage drug misuse and abuse.

For many reasons, urine remains the best biologic specimen for determining the presence or absence of certain drugs. Many people incorrectly believe that *blood* testing for drugs may provide a more accurate assessment. In fact, urine drug testing is superior due to the increased window of detection (typically 1-3 *days* for many drugs), while drugs and their metabolites would be detectable for only a *matter of hours* in serum. In addition, serum drug testing also suffers from the disadvantages of increased cost and an invasive nature. Urine drug testing therefore is a useful tool to aid in both the ability to evaluate patient compliance with prescribed regimens of controlled substances and to uncover their misuse, abuse and diversion.

Drug testing for pain management should not mirror traditional drugs of abuse testing, where a multi-drug screening is performed first, followed by a confirmatory test if the screening test is positive. For pain management, a confirmatory *quantitative* test for the drug prescribed should be ordered first, since the level of detection is far superior. Screening tests are often immunoassays which test for a common structure or metabolite of a class or classes of drugs. Their level of detection or cut-off is often quite high, on the order of 300-500 ng/mL, and therefore relatively insensitive analytically. Confirmatory/quantitative tests are more analytically sensitive and specific, and often have a level of detection of 5-20 ng/mL.

To illustrate, an *opiate* immunoassay screen will effectively identify morphine and codeine. However, it will often *not* detect synthetic (methadone) and semi-synthetic (oxycodone) *opioids*. The more sensitive and specific confirmatory/quantitative tests by chromatography/mass spectrometry will detect both oxycodone and methadone down to levels of 5-10 ng/mL respectively.

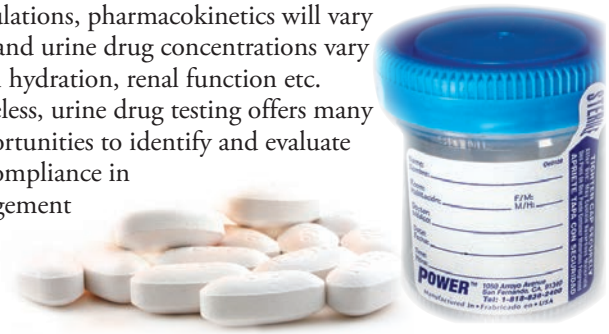
Caveats to Interpretation

Another way that pain management drug testing differs from traditional drugs of abuse testing is the "negative result." In drugs of abuse testing, a negative result is considered a good thing, and no further action is required. A negative result from a confirmatory/quantitative test for a prescribed drug is *NOT* a good thing and warrants immediate attention. A negative result could indicate the following: 1) drug was not taken; 2) drug was taken incorrectly (dosage/frequency); 3) specimen was collected too late after dosing; 4) the test ordered/performed was not designed to detect the drug of interest (e.g., opiate test not detecting opiods); 5) test level of detection too high (cut-off was too high-*false* negative).

When using *targeted* drug testing for compliance, a positive result for a drug which has been prescribed is the ideal situation. However, if multi-drug screens are mistakenly ordered, the presence of additional unprescribed drugs may be the source of confusion to the practitioner, who may suspect illicit use. In certain instances the presence of unexpected drugs may be due to the normal metabolism of prescription drugs. For example, a patient who is prescribed *large* quantities of codeine may show *trace* amounts of hydrocodone that is unrelated to hydrocodone use/abuse. As another example, a patient who is prescribed hydrocodone may show hydromorphone due to normal metabolic processes. As with any unexplained test result, it is important to clarify the interpretation with someone knowledgeable in clinical toxicology.

It is important to note that urine drug testing *cannot* reliably evaluate dosing, and *cannot* indicate the amount of drug taken, when the last dose was administered or the source of the drug. This is due to the fact that dose delivery may vary widely with drug formulations, pharmacokinetics will vary by patient and urine drug concentrations vary based upon hydration, renal function etc.

Nevertheless, urine drug testing offers many useful opportunities to identify and evaluate drug use/compliance in pain management settings.



IN THIS ISSUE

New Center on The Hill Offers Convenience to Hospitals, SU

On July 31, we celebrated the opening of our new patient service center at 475 Irving Ave. in the Madison Irving Medical Center in Syracuse. Convenient to the hospitals and Syracuse University, the center is open to the public for laboratory tests ordered by health care providers.

Madison Irving Medical Center is located across the street from Syracuse Stage and on the same block as Phoebe's Restaurant, on the corners of Madison Street and Irving Avenue.

When you need laboratory tests, visit us on the Hill

Madison Irving Medical Center
475 Irving Avenue, Suite 100
Just inside the front doors on the first floor.

Monday-Friday from 8:00 a.m. - 5:30 p.m.
Phone (315) 471-1983
Fax (315) 474-1050

- Indoor parking garage offers reasonable rates!
- Near the hospitals and Syracuse University.
- The Crouse Hospital Shuttle stops at our door.
- Experienced professional staff.
- No appointments necessary.
- Most medical insurance plans accepted.

"Bath Salts" – A Primer

By Michael R. O'Leary, M.D., CEO

The latest drugs-of-abuse in the news are members of a family of drugs called cathinones and are best known as the stimulants marketed as "bath salts."

The drugs have also been marketed as "cleaning agents" or "plant food" or some other ruse to cover up the intended use: as a recreational drug. This marketing technique is not merely for appearances or protection from civil liability from the consumers.

The more insidious reason for the odd labeling of these compounds as "bath salts" is that it takes them out of the purview of the Federal Analog Act, which is designed to make illegal all the analogs of DEA Scheduled drugs, *provided they are not sold for human consumption.* These cathinones are *not detectable* by routine toxicology screens used in most clinical labs and emergency departments, and in most cases *not detectable* or included in comprehensive drug screening panels.

Emergency department admissions may present with signs and symptoms that mimic *severe* amphetamine intoxication, and include tachycardia, agitation, diaphoresis, hypertension, *extreme paranoia,* delusions and hallucinations. There are already anecdotal reports from the workplace drug testing arena where the employee presents with all the signs of stimulant use, but the screening drug tests are negative.

Cathinones are presenting a public health crisis in many areas of the country as there are a large number of *synthetic cathinone analogs* that are available. New derivatives/analogs appear to emerge monthly.

Cathinone: The Parent Compound

Cathinone is the parent compound in this family. It is a *naturally occurring* central nervous system stimulant found in the khat plant. Khat is a common drug used in East Africa and parts of the Middle East. Cathinone has a structure very similar to amphetamine with *similar clinical effects*. Cathinone differs from many other amphetamines in that it has a ketone functional group that is common to this family of stimulant *psychotropic* compounds. The ketone structure slows the crossing of the blood brain barrier, but increases the stimulant potency of the molecule.

As always seems to be the case, the *synthetic derivatives* are more potent and more problematic than the parent: the synthetic cathinones show *more potent psychotropic effects*. Internationally, cathinone is a Schedule I drug under the Convention on Psychotropic Substances. In 1993, the DEA added cathinone to the Controlled Substances Acts Schedule I.

As seen with the synthetic cannabinoids, the available products of most bath salts are often a mixture of *different* synthetic cathinones. This is usually due to accumulation of analog by-products of the organic synthesis process. Therefore a broad-spectrum cathinone panel would be the most effective in identifying their usage.

Laboratory Alliance was again well represented at the 2012 JP Morgan Chase Corporate Challenge held in June in Liverpool.

Shigellosis Outbreak in Central New York

By Paul A. Granato, Ph.D.
Director of Microbiology

In June of 2012, Onondaga County experienced an outbreak of shigellosis with over 40 patient cases documented. The outbreak is continuing with over 60 patient infections confirmed as of July 23. Most of these infections have involved children and epidemiologic investigations have yet to reveal the source of this infection.

Shigellosis is a gastrointestinal diarrheal disease caused by a bacterium, called *Shigella*. Children are most commonly afflicted with this diarrheal disease in which the patient develops fever, painful bloody or mucous diarrhea and stomach cramps a day or two after exposure following ingestion of the *Shigella* bacterium. Most infections are self-limited and resolve without medical intervention after five to seven days but severe infections may require antibiotic treatment.

There are four major species of *Shigella: Shigella dysenteriae, Shigella flexneri, Shigella boydii*, and *Shigella sonnei*. *Shigella dysenteriae* causes the most severe gastrointestinal infection among the species but occurs primarily in developing countries and is rarely a cause of disease in the U.S. The current outbreak in Onondaga County is caused by *Shigella sonnei*.

Humans and other large primates are the only natural reservoirs for *Shigella*. Most person-to-person transmissions are by the fecal-oral route but infection can also result from the ingestion of fecally contaminated food or water. Shigellosis is most common in situations or patient groups where hand hygiene practices may be compromised or not enforced following toilet visits (e.g., child care centers and other institutional settings). Another feature of shigellosis that contributes to its high rate of infectivity is that ingestion of extremely small numbers of *Shigella* (i.e., 1 to 10 bacteria) can produce severe, symptomatic infections, particularly in children.

The best way to interrupt the person-to person transmission of *Shigella* infections in any patient group is the strict enforcement of hand washing practices and toilet hygiene.

Hepatitis C: CDC Proposes Expansion of Testing

Hepatitis C is an unrecognized health crisis in the United States. This life-threatening infection affects an estimated 3.2 million Americans, most of whom are baby boomers (those born from 1945-1965).

Despite newly available treatments that can cure the majority of Hepatitis C cases, most people do not seek care because they do not know they are infected.

Diagnosing Hepatitis C early is key, since the longer the virus goes undetected, the greater a person's risk of developing serious liver disease including liver cancer and cirrhosis.

The Centers for Disease Control and Prevention's (CDC) current public health recommendations focus on testing *only* individuals with known Hepatitis C risk factors. To identify more hidden infections and to provide prompt and appropriate care, the CDC is now proposing a one time Hepatitis C antibody testing for *all baby boomers*.

The new draft recommendations were available for public comment between May 22 and June 8, 2012, and will be finalized later in the year.

Laboratory Alliance performs Hepatitis C antibody testing 6 days/week. Our test code is HCVAB. A handy testing algorithm is available on our website at **www.laboratoryalliance.com.**

O'Learys Recognized by United Way of CNY

Doctors Colleen and Michael R. O'Leary were recognized at United Way of CNY's Annual Leadership Spring Reception for their leadership as co-chairs of the 2010-11 Alexis de Tocqueville Society, a United Way of America leadership giving program.

Laboratory Alliance was a corporate sponsor of the event, which was held June 6 at M&T Bank's downtown Syracuse location. It was attended by community leaders and major contributors.

Started locally in 1993, the Alexis de Tocqueville Society exists to foster, promote and recognize the vital importance of voluntary community service and personal giving at the highest levels.

"Mike and Colleen are true United Way champions," said Peggy Fabic, United Ways vice president for development. "They have been extremely generous to our community, not only through their gifts to United Way and others, but through the time and effort they give us as well. We are a better organization, and a better community, thanks to their support and leadership."

Frank Lazarski, left, executive director of United Way of CNY, joins doctors Colleen and Michael R. O'Leary following the award presentation.

Peggy Fabic, left, of United Way of CNY, celebrates with doctors Michael R. and Colleen O'Leary and Laboratory Alliance's Senior Vice President Anne Marie Mullin.

Pertussis – An Old Disease of Modern Day Consequence

By Paul A. Granato, Ph.D., Director of Microbiology

Pertussis, also known as whooping cough, is a bacterial infection of the respiratory tract that is most commonly caused by *Bordetella pertussis*. A less serious form of the disease is caused by *Bordetella parapertussis*. Prior to the availability of an effective vaccine, pertussis was a major pediatric pathogen, particularly in infants, where the mortality outbreak rate was high.

Even though an effective vaccine is widely available, pertussis is an endemic disease in the United States, with peaks in disease incidence occurring every three to five years sometimes resulting in occasional widespread epidemics. For example, in 2010, 27,550 cases of pertussis were reported to the Centers for Disease Control (CDC), resulting in 27 deaths, 25 of which were babies. Many more cases go unreported because most patients have milder forms of the disease and may not seek medical attention. States that reported a high incidence of pertussis in 2010 were Michigan, Ohio, Wisconsin and New York with many infections documented in Central New York.

More recently, in 2012, another outbreak of pertussis is occurring throughout the United States that apparently originated in the state of Washington with 2,700 cases reported to date. Eighteen other states including New York have also experienced an increased incidence of disease. In the first six months of 2012, over 18,000 cases of pertussis have been documented nationwide by mid-July compared to approximately 15,000 cases in all of 2011. Onondaga County has also been impacted by this recent outbreak of pertussis with over 50 cases confirmed through June of this year. During the same time period in 2011, only 11 pertussis cases were documented.

Symptoms

Pertussis is characterized by a chronic or persistent, non-productive cough that often produces coughing paroxysms. These paroxysms can be so intense that the child is gasping for air which is then followed by a large inspiratory breath sounding like a "whoop," hence the name whooping cough.

Pertussis is often called the "cough of 100 days" because even though the infectious bacterium has been eradicated following effective antibiotic therapy with such drugs as azithromycin or clarithromycin, the symptoms of the disease, namely the cough, can persist for over 100 days. This is because *B. pertussis* binds to the tracheal ciliated epithelial cells and produces toxins and other materials that damage these epithelial cells and elicit a cough response. The toxic materials continue to irritate the tracheal mucosa even in the absence of the living bacterium producing the chronic and persistent cough that can sometimes last 100 days or more.

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Sentinel Antibiotic Susceptibility Prevalence Studies for Groups A and B Streptococci

By Russell A. Rawling, M.S., M(ASCP)SM, RM(NRM)SM, Microbiology Manager

Sentinel antibiotic susceptibility prevalence studies for groups A and B streptococci are performed at least biannually by our Microbiology Department to monitor the emergence of resistance to select antimicrobial agents, namely penicillin, erythromycin and clindamycin.

Group A and group B streptococcal isolates were collected from patient specimens from various physician practices and/or area hospitals throughout Onondaga County so that the results would not be biased by geographic location or physician practice specialty. The following highlights the results of these studies.

Group A streptococcal study results

From May 15 to June 8, 2012, 50 isolates of group A streptococci (GAS) recovered from adult and pediatric pharyngeal specimens were randomly selected for testing against penicillin, erythromycin, and clindamycin. As expected, all 50 isolates (100%) were susceptible to penicillin but, notably, only 68% of the GAS were susceptible to erythromycin and 72% were susceptible to clindamycin. In the past, this has appeared to correlate with increased use of azithromycin. As there can be cross-resistance between macrolides and clindamcin there may not have been over-use of clindamycin.

Table 1 shows the comparative results of the antibiotic sentinel studies that were performed in 2007, 2009, 2011 and 2012

Year	Antibiotic Tested (% Susceptible)		
	Penicillin	Erythromycin	Clindamycin
2007	100%	94%	98%
2009	100%	82%	84%
2011	100%	100%	100%
2012	100%	68%	72%

Table 1. Comparative 2007, 2009, 2011 and 2012 Group A Streptococci Susceptibility Results

The 2012 susceptibility patterns for erythromycin and clindamycin represented a dramatic reversal in the previously observed decreased resistance that was detected for these antibiotics over the last sentinel study period of 2011 and is more along the trends seen in prior years of increased resistance.

The results of this limited sentinel study indicates that penicillin continues to be effective therapy for the treatment of GAS pharyngitis in the non-penicillin allergic patient and that erythromycin and clindamycin may be effective alternative therapeutic choices in the penicillin-allergic patient, but only with susceptibility testing to verify activity against these drugs. This antibiotic susceptibility trend will be monitored and tracked by performing periodic sentinel studies.

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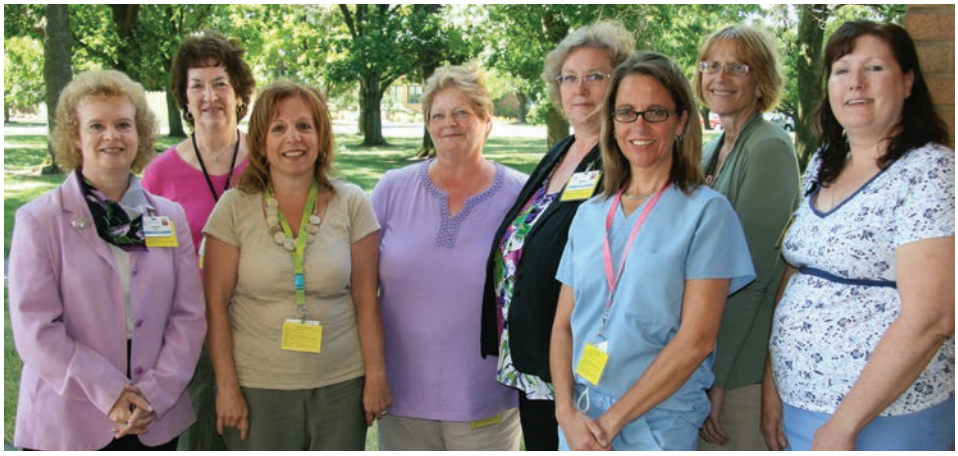
Introducing our Cytology Department

Our team of eight professionals who work in our Cytology Department are responsible for providing cytopathology services to our three owner hospitals, our physician clients and their patients.

It is our unique relationship with the owner hospitals that gives Laboratory Alliance access to full patient history. Patients and their health care providers rely on our capabilities to correlate previous cytology and inpatient surgical pathology patient history with current specimen data. No other laboratory provider can offer the complete cytopathology picture.



Cytology Department staff working at the Operations Center include, from left, Janet Miller, Mary Warter, Debra Neverette, Linda Hart, Debra Shannon, Krista Absalon, Daria Lebduska and Beth Conway.

Working side-by-side at our Operations Center, five cytotechnologists and three medical laboratory technicians collaborate to provide accurate and timely diagnoses on a wide range of tissue and cytology specimens. Clients can choose from Hologic Thin prep Paps or BD Tripath SurePath Paps. Cytology testing is also performed on respiratory specimens, body fluids and fine needle aspirates.

Our cytotechnologists are licensed by New York State, certified by the American Society of Clinical Pathology, and participate annually in national proficiency testing. Our technicians who prepare the specimens are New York State licensed.

Completing our team are 13 affiliated pathologists that are located at our three owner hospitals. These experienced doctors share their pathology expertise and offer medical direction. All of our affiliated pathologists are board certified in pathology and some are board certified in cytopathology.

Laboratory Alliance's clients benefit from customized electronic interfaces ensuring timely and accurate patient results. Laboratory Alliance has sophisticated I.T. capabilities, supported by our 18-person Information Systems Department.

Our Cytology Department continues to excel and make us proud. To learn more, contact Cytology Department Manager Janet Miller at (315) 410-7211 or by email to janetmiller@lacny.com.

New Screening Guidelines for the Prevention and Early Detection of Cervical Cancer

By John Fazio, M.D., Medical Advisor, Cytology Department

An update to the American Cancer Society (ACS) guideline regarding screening for the early detection of cervical precancerous lesions and cancer was published in April in the *American Journal of Clinical Pathology*. The ACS guideline was last reviewed and updated in 2002, and much has changed in term of our knowledge in that 10-year interval.

The new screening recommendations address age-appropriate screening strategies (including the use of cytology and high-risk HPV testing), follow-up of women after screening, the age at which to exit screening, screening strategies for women vaccinated against HPV 16 and 18 infections, as well as looking ahead to future considerations.

Following is a summary of the new guideline, focusing on the major changes since the last update in 2002:

Age to Begin Screening

The new recommendation is that cervical cancer screening should begin at age 21 years. Women aged younger than 21 years should not be screened regardless of the age of sexual initiation or other risk factors.

Screening Periodicity

Women at any age should not be screened annually by any screening method. Rather, recommended screening intervals for women are based on age and clinical history. This officially marks the end of the annual Pap smear, which has been a mainstay in women's healthcare since the 1960s.

1. Women 21-29 years of age – In this age group, screening with cytology alone every three years is recommended. HPV testing should not be used to screen women in this age group, either as a stand-alone test or as a co-test with cytology. In this age group, HPV testing is only indicated in women who have abnormal cervical cytology.

2. Women 30-65 years of age – In this age group, screening with cytology and HPV testing ("cotesting") every five years is the preferred screening strategy. Screening with cytology alone every three years is an acceptable alternate screening strategy.

Management of Women with HPV-Positive, Cytology-Negative Cotests

Option 1 involves repeat contesting in 12 months, while Option 2 involves immediate genotype-specific testing for HPV 16 alone or HPV 16/18 combined. If contesting is repeated in 12 months (Option 1), women having either a positive HPV test or cytology showing LSIL or higher are referred to colposcopy; women having a negative HPV test and cytology of ASC-US or less should be returned to routine screening.

Management of Women with HPV-Negative, ASC-US Cytology Results

Women with ASC-US cytology and a negative HPV test result should continue with routine screening as per age-specific guidelines.

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IN THE NEWS

Dr. Costaldi Joins Pathology Associates of Syracuse

Mark E. Costaldi, M.D. recently joined Pathology Associates of Syracuse, one of the pathology practices that is affiliated with Laboratory Alliance. Dr. Costaldi earned his master's and medical degrees from St. Louis University in Missouri after completing his undergraduate studies majoring in chemistry at Rockhurst University in Kansas City, Mo. He did his residency in pathology and fellowship in hematopathology at the University Hospitals Case Medical Center in Cleveland, Ohio. He also did a fellowship in cytopathology at the University of Rochester. He joins the group, which has offices in Crouse Hospital, as a staff pathologist.

Marilyn LeClair Speaks at CLMA Quarterly Meeting

Marilyn LeClair, vice president of operations, presented "Managing Non-Conforming Events" at the Clinical Laboratory Management Association (CLMA) of Central New York chapter's quarterly meeting held on June 7 in Cicero, N.Y. Marilyn discussed the importance of establishing a non-conforming event (NCE) program, which includes: conducting a thorough investigation to determine the root cause of an NCE, and tracing and trending events to look for opportunities for improvement. An NCE program can help the lab refine its process to reduce and ultimately eliminate error potential, because patient safety should always be ***job one***.

Anne Marie Mullin Named Senior Vice President

Anne Marie Mullin, vice president of business development and marketing for Laboratory Alliance, has been named senior vice president. Anne Marie will report to company CEO and Medical Director Michael R. O'Leary, M.D. Her new responsibilites include oversight of the Human Resources, Operations and Information Systems Departments. Anne Marie joined Laboratory Alliance when the company was founded in 1998.

Director of Microbiology Paul A. Granato, Ph.D., and **Microbiology Manager Russell A. Rawling, M.S., M(ASCP)SM**, co-authored an article with Waleed Javaid, M.D., that was published in the May issue of the *Clinical Microbiology Newsletter*. The case report was titled "Nocardia pseudobrasiliensis Systemic Infection in an Immunocompetent Patient."

Also, **Dr. Granato** co-authored an article that was published in April in the *Journal of Clinical Virology*. "Comparative Clinical Evaluation of the IsoAmp® HSV Assay with ELVIS® HSV Culture/ID/Typing Test System for the Detection of Herpes Simplex Virus in Genital and Oral Lesions" can be read online at http://dx.doi.org/10.1016/j.jcv.2012.04.004. Co-authors are affiliated with medical facilities in other states.

Dr. Granato was invited to serve on a Centers for Disease Control and Prevention (CDC) national committee to develop "Best Practice Guidelines for the Diagnosis of Campylobacter Gastroenteritis." He presented on this topic at the June 26 CDC meeting.

Welcome to Our New Clients

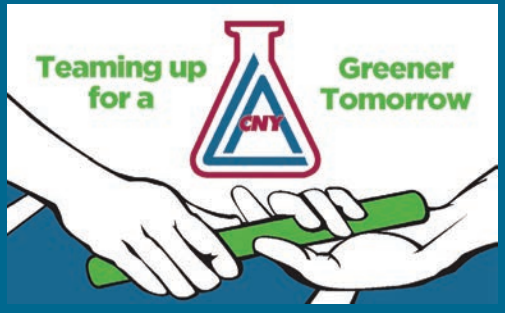
William Graber, MD, PC
Syracuse, N.Y.

Dr. Anumba, Inc.
Syracuse, N.Y.

Beth Houck, MD
Syracuse, N.Y.

Krueger, Loftus and Ryu, MDs
Syracuse, N.Y.

Special thanks to Technical Administrative Assistant Diane Hall for designing our Corporate Challenge t-shirt logo.



LA NEWSMAKERS

New Employees

Please welcome our new employees

At our Corporate Office

Kevin Clay - Customer Service Specialist

At our Operations Center

Erin Aungier-Markoff - Phlebotomist
Jessica Bomgren - Phlebotomist
Allison Burgess - Phlebotomist
Patricia Courtwright - Histology Processing Assistant
Emily Hiza - Laboratory Office Assistant
Ericka LaCourt - Phlebotomist
Sarah Pluff - Medical Technologist
Rebecka Russo - Phlebotomist
Samantha Salisbury - Laboratory Office Assistant
Holly Willson - Medical Technologist
Megan Zocco - Medical Technologist

At our Rapid Response Laboratory at St. Joseph's Hospital

Chelsey Brooks - Laboratory Office Assistant
Jennifer Canterna - Laboratory Office Assistant
Elisha George - Assistant Blood Bank Manager

At our Rapid Response Laboratory at Crouse Hospital

Brandon Bach - Medical Technologist
Jacquelyn Pendl - Laboratory Office Assistant
Carrie Qadan - Medical Technologist
Zachary Rood - Medical Laboratory Technician
John Slater - Laboratory Office Assistant
Lori Taylor - Medical Laboratory Technician

Employee Anniversaries

July, 5 years:
Lisa Horning
Laura Murray

August, 5 years:
Patricia Doherty

September, 5 years:
Melissa Belfield
Allen Davis Jr.
Kevin McKown

September, 10 years:
Adam Campbell
Judy Ranieri
Janet Singer

RED CROSS BLOOD DRIVE

Wednesday, Aug. 15
9 a.m. - 2 p.m.
Corporate Offices
1304 Buckley Road
Suite 300 Conference Room
Schedule your appointment today!
Contact Marsha at 461-5903 or marshaherbst@lacny.com

Well-Earned Recognition

Congratulations to Medical Technologist **Debbie Gardiner**, for her admittance to the New York State Bar in June. Debbie, who has worked at the St. Joseph's Hospital and Health Center's Rapid Response Laboratory for seven years, recently graduated from Syracuse University College of Law with a Master of Social Work, a Juris Doctor and certificate in Family Law and Social Justice.

A medical technologist for 20 years, Debbie's motivation to attend law school and her interest in the areas of public interest law, child welfare and domestic violence developed as she raised seven children and overcame adversity in her own life. Debbie strives to inspire and help others, especially children, who are facing difficult situations. In September she will begin work as an attorney for the Jefferson County Department of Social Services primarily addressing child welfare issues.

Pertussis

Continued from page 4

Even though pertussis is generally regarded as a childhood disease, adults can become infected as their immunity wanes years following childhood vaccination. Some studies have shown that immunity drops to 70% within 5 years following vaccination. Usually adult infections are less severe but any individual who has an annoying and persistent cough may be a candidate for having pertussis infection. Importantly, adults who have waning immunity following childhood vaccination can develop low-grade infections that serve as important reservoirs of transmission to susceptible children and newborns that may cause outbreaks of disease. Because of this, it is now recommended that adults should receive a booster shot vaccination against pertussis every 10 years.

Diagnosis

The most reliable test for establishing the laboratory diagnosis of pertussis is the use of a molecular gene amplification assay, called polymerase chain reaction or simply PCR. Other methods, such as culture and a direct specimen immunofluorescent test, have been used over the years but they have been proven to be insensitive compared to the PCR assay. The PCR test is performed from a patient nasopharyngeal specimen that is transported to the laboratory using a special Amies charcoal transport medium that can be obtained by contacting our Customer Service Department at (315) 461-3008. Our Microbiology Department performs the Pertussis PCR assay several times a week assuring the timely availability of these important test results.

Prevention

Pertussis can be prevented by receiving vaccinations with any one of several vaccines that are commercially available. All children should be vaccinated and adults should be revaccinated by receiving a booster shot. The childhood vaccine is called DTaP and is administered as a series of vaccinations over a predetermined time interval soon after birth. The pertussis vaccine for adolescents and adults is called Tdap and should be given as a booster vaccination shot every 10 years as recommended by the CDC. Both the childhood and adult vaccines protect against diphtheria, tetanus and pertussis.

CALENDAR OF EVENTS

Friday, Sept. 7
St. Joseph's Hospital Health Center 20th Annual Golf Classic, Turning Stone Resort. *Laboratory Alliance is a corporate sponsor.*

Saturday, Sept. 8
Laboratory Alliance Company Clambake, The Spinning Wheel Restaurant.

Friday, Sept. 14
Annual Tribute Evening to benefit Crouse Hospital Foundation, The Oncenter. *Laboratory Alliance is a corporate sponsor.*

Friday, Sept. 21
September Song to benefit Hospice of CNY, Traditions at the Links. *Laboratory Alliance is a corporate sponsor.*

Monday, Sept. 24
Fairway to Heaven Golf Tournament to benefit Sisters of St. Francis, Cavalry Club. *Laboratory Alliance is a sponsor.*

Wednesday, Oct. 10
"There's No Place Like Home" event to benefit Francis House, NYS Fairgrounds. *Laboratory Alliance is a corporate sponsor.*

New Cervical Cancer Screening Guidelines

Continued from page 5

Exiting from Screening

1. Women older than 65 years of age with evidence of adequate negative prior screening and no history of CIN II or higher within the last 20 years should not be screened for cervical cancer with any modality. Once screening is discontinued it should not resume for any reason, even if a woman reports having a new sexual partner.
2. Women with a history of regressed or appropriately managed CIN II, CIN III, or adenocarcinoma in situ should continue with routine screening for at least 20 years after treatment of the CIN or AIS (even if this extends screening past 65 years of age).
3. Women at any age following a hysterectomy with removal of the cervix who have no history of CIN II or higher should not be screened for vaginal cancer using any modality.

Screening following HPV Vaccination

Recommended screening practices should not change on the basis of HPV vaccination status.

Conclusion

This article summarizes the major changes in the updated ACS guidelines regarding screening for the early detection of cervical precancerous lesions and cancer. Clinical judgment should always be used when applying consensus guidelines to an individual patient, because it is impossible to develop guidelines that apply to all situations. In addition, it should be noted that the largest immediate gain in reducing the burden of cervical cancer incidence and mortality could be attained by increasing access to screening (regardless of the test used) among women who are currently unscreened or screened infrequently.

For more information or to discuss any aspects of the new guidelines, contact Dr. Fazio at (315) 492-5096 or by email to johnfazio.ohpg@lacny.com, or Cytology Department Technical Manager Janet Miller at (315) 410-7211.

Antibiotic Susceptibility Prevalence Studies

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Group B streptococcal study results

A similar antibiotic susceptibility prevalence study was performed on 50 randomly selected group B streptococci (GBS) recovered from vaginal specimens over a similar time period.

Table 2 shows the comparative results for the sentinel studies conducted in 2007, 2009, 2011 and 2012.

Year	Antibiotic Tested (% Susceptible)		
	Penicillin	Erythromycin	Clindamycin
2007	100%	46%	54%
2009	100%	50%	64%
2011	100%	24%	38%
2012	100%	32%	50%

Table 2. Comparative GBS Sentinel Study for 2007, 2009, 2011 and 2012.

As expected, all GBS isolates were susceptible to penicillin. However, an alarming and continued significant resistance to erythromycin and clindamycin was noted with only 32% and 50% of the GBS isolates tested susceptible to these respective antibiotics. Although erythromycin and clindamycin are the recommended antibiotics of choice for the treatment of GBS colonizations or infections in the penicillin-allergic patient, this continued high rate of resistance to erythromycin and clindamycin may be due to the over-use of these antibiotics to treat GBS colonized or infected patients who are not penicillin allergic.

If treatment is indicated for GBS, penicillin remains the agent of choice for intrapartum antibiotic prophylaxis in the non-penicillin allergic patient. Ampicillin is an acceptable alternative but penicillin is preferred because it has a narrower spectrum of activity and is less likely to select for bacterial resistance. Importantly, physicians are reminded that confirmed GBS resistance to penicillin has not been reported to date and, as such, antimicrobial susceptibility testing against this agent is not performed.

For penicillin-allergic women at risk for anaphylaxis, cefazolin, clindamycin and erythromycin are possible therapeutic options as recommended by the Centers for Disease Control. While there is no GBS reported resistance to cefazolin, the results of this sentinel study show that only 32% and 50% of the GBS isolates tested were susceptible to erythromycin and clindamycin respectively. Since antimicrobial susceptibility testing is not routinely performed on GBS isolates, physicians may specifically request such testing when considering erythromycin or clindamycin as therapeutic options.

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