

Bayou Tech

Louisiana Society for Clinical Laboratory Science
An Affiliate of American Society for Clinical Laboratory Science



Edited By: Evan Ashley & Mallory McCarty

A Word from the President: Stephanie Blackburn MHS, MLS (ASCP)^{cm}

Welcome 2014!

I am sure most of you have made resolutions for the upcoming year. Perhaps it was to lose weight, exercise more, or de-clutter your house. As President of LSCLS, I am asking you to add an additional resolution for the New Year – I am asking all of you, to be active in your professional organization.



LSCLS depends on its members' involvement and passion for the profession. Your involvement may be as simple as encouraging others to join and attending board meetings or you may choose to be more active by running for an available position on the LSCLS board. Our organization is comprised of an amazing group of individuals that support one another and our profession. We will stand up and fight for state licensure in Baton Rouge and support colleagues at area hospitals and universities. I am proud to be a member of LSCLS!

Some ways you can get involved:

- Attend the Annual LSCLS/ASCLS-MS Bistate Meeting in Biloxi, MS. This provides a great opportunity to meet other medical laboratory professionals and earn CEs for the year. The meeting will be held April 29 – May 2, 2014.
- Nominate someone or run for one of the available positions on the LSCLS board.
- Nominate a deserving LSCLS member for an award. We are looking for nominations for LSCLS Member of the Year, LSCLS Educator of the Year, and LSCLS Student of the Year.
- Encourage MLS students to apply for a scholarship. LSCLS offers two fantastic scholarships: the Joy Holm Memorial Scholarship and Betty Lynne Theriot Memorial Scholarship.

Nomination forms for LSCLS Awards and applications can be found on the LSCLS website,

www.lscls.org. Mark your calendars for the annual LSCLS/ASCLS-MS Bi-state Meeting in Biloxi, MS on April 29 – May 2. It will be a fantastic meeting with a variety of excellent speakers. I would love to see you all there! I look forward to 2014 and what the year has in store for us.

*“be active in
your professional
organization”*

- Stephanie Blackburn

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Patient Safety Tips*

Heather Chapman
Member, Patient Safety Committee

This is a new column from the ASCLS Patient Safety Committee to share tips and techniques on how to use the current and new patient educational tools we have developed to improve the effectiveness of medical laboratory testing.

A common scenario occurs frequently—a patient sees the physician for an annual physical exam. The physician instructs the patient to return another day for a fasting glucose and lipid panel. The patient is told to fast the day before the blood collection. The patient returns a few days later to the physician's office for the blood collection. When the laboratory receives the sample and spins it down, the serum is lipemic. The Medical Laboratory Scientist (MLS) decides the specimen is unacceptable for testing because it is evident the patient had not fasted. When the MLS phones the physician's office to inform them about the unacceptable specimen the phlebotomist who collected the specimen confirms they did not verify the fasting status of patients. Unfortunately the patient has to be notified of the situation and return for a second fasting blood collection.

Without proper instructions, patients do not fully understand the importance of fasting and staying hydrated before having their blood collected. Medical laboratory practitioners understand that patient preparation is an important part of specimen collection. Without it there will be erroneous test results and an added burden will be created for the patient because he/she has to return to have blood drawn for a second time. The Patient Safety Committee has created flyers to help solve this problem. The first flyer that should be shared with patients (and their providers, e.g. physicians and nurses) is the Patient Safety Tips Venipuncture flyer. It describes the procedure, before and after care, and helps a patient understand the procedure. Depending on the laboratory test(s) to be performed, the patient may also need to receive the ASCLS Patient Safety Tips Fasting brochure. It describes the fasting requirements when lipid panels or glucose tests need to be performed. Urging physicians and phlebotomists to distribute these flyers to patients will help medical laboratory scientists ensure the quality of patient test information and improve patient safety.

These flyers may be accessed at: <http://ascls.org/patient-safety/patient-safety-tips-tools/63-patient-safety-2>. The brochures are provided in English and Spanish.

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Top 10 STANDARD Level Deficiencies in Louisiana – CLIA Surveys

The information in the chart below for the CLIA Top Ten Deficiencies in Louisiana is based on information obtained from the Centers for Medicare & Medicaid Services (CMS) Clinical Laboratory Improvement Amendments (CLIA) database for the federal fiscal year of 2013. A total of 224 CLIA surveys were completed in fiscal year 2013 for Louisiana.

Regulatory Subpart	Regulatory Cite	Deficiency	# labs with deficiency	% all labs with defi-
Personnel Moderate Complexity	493.1407e(5)	The laboratory director must ensure that the quality assessment programs are established and maintained to assure the quality of laboratory services provided.	37	17%
Analytic Systems (D5793)	493.1289b	The analytic systems quality assessment must include a review of the effectiveness of corrective actions taken to resolve problems, revision of policies and procedures necessary to prevent recurrence of problems, and discussion	35	16%
Personnel Moderate Complexity	493.1407e(4)	The laboratory director must ensure that the quality control programs are established and maintained to assure the quality of laboratory services provided.	33	15%
Analytic Systems (D5417)	493.1252(d)	Reagents, solutions, culture media, control materials, calibration materials, and other supplies must not be used when they have exceeded their expira-	19	8%
Analytic Systems (D5403)	493.1251(b)	The procedure manual must include the requirements for specimen acceptability, microscopic examination, step-by-step performance of the procedure,	18	8%
Personnel Moderate Complexity (D6007)	493.1407e(1)	The laboratory director must ensure that testing systems developed and used for each of the tests performed in the laboratory provide quality laboratory services for all aspects of test performance, which includes the preanalytic, analytic, and postanalytic phases of testing.	17	8%
Analytic Systems (D5413)	493.1252(b)	The laboratory must define criteria for those conditions that are essential for proper storage of reagents and specimens, accurate and reliable test system operation, and test result reporting. The criteria must be consistent with the manufacturer's instructions, if provided. These conditions must be monitored	16	7%
Preanalytic Systems (D5311)	493.1242a	The laboratory must establish and follow written policies and procedures for each of the following, if applicable: (1) patient preparation (2) specimen collection (3) specimen labeling, including patient name or unique patient identifier and, when appropriate, specimen source (4) specimen storage and preservation (5) conditions for specimen transport (6) specimen processing (7) specimen acceptability and rejection (8) specimen referral.	15	7%
Analytic Systems (D5421)	493.1253b(1)	Each laboratory that introduces an unmodified, FDA-cleared or approved test system must do the following before reporting patient test results: Demonstrate that it can obtain performance specifications comparable to those established by the manufacturer for the following performance characteristics: accuracy, precision, reportable range of test results for the test system, verify that the manufacturer's reference intervals (normal values) are appropriate for the laboratory's patient population.	15	7%
Analytic Systems (D5469)	493.1256d	Establish or verify the criteria for acceptability of all control materials. (i) When control materials providing quantitative results are used, statistical parameters (for example, mean and standard deviation) for each batch and lot number of control materials must be defined and available. (ii) The laboratory may use the stated value of a commercially assayed control material provided the stated value is for the methodology and instrumentation employed by the laboratory and is verified by the laboratory. (iii) Statistical parameters for unassayed control materials must be established over time by the laboratory through concurrent testing of control materials having previously determined	15	7%

Student Forum Update

Over the past year of being Louisiana Student Forum Chair I have learned a great deal about our Society and our profession. My passion for medical technology grew and I hope the same for all CLS students and First Year Professionals (FYP). At the National Meeting, which is held every year at the end of July, I was introduced to many students, professionals, professors, and other leaders who work in our field. Each and every one of these people had a passion for medical technology that I wish to share with each of you. I became informed about many different aspects of ASCLS and the different ways I could become involved even as a student. There are many different committees such as Leadership Development Committee, New Professional Committee, and one that I belong to, the Government Affairs Committee; each as its own role to play in our society.

At the upcoming Bi-State meeting with Mississippi we will be electing a new student forum. This will include a new student forum chair, vice-chair, and secretary.

The Chair: Highest Ranking Officer; Serves as a voting member of the ASCLS Board of Directors; Communicate the needs, concerns, and opinions of Student Forum to the Board of Directors and the National Student Forum; may choose to run the student forum orientation, forum, and election at the annual meeting; hold the student fundraiser

The Vice-Chair: Second Highest Ranking Officer; Become familiar with the roles of Chair and perform those duties when Chair is absent; Communicate and assist the Chair in any activities and meetings; help Chair with student fundraiser

The Secretary: Record meetings; Communicate and assist the Chair and Vice-Chair in any activities and Meetings; help Chair with student fundraiser

If you are interested in becoming and would like to know more about your role as an officer please contact me. If you not interested in becoming an officer but would like to get involved in LSCLS and/or ASCLS there are many opportunities for you as well. Please see my contact information below and I will be glad to help.

As Student Forum Chair, I have reached out to many students to try and help them along the way with any school or studying problems they may have. One issue that keeps coming up is Certification and Licensure.

To begin your certification process, ask your professor when you can start applying. He/she will give you the time you can begin to apply for the exam. And yes, I said apply. You must first apply and pay for the exam before you can actually schedule your exam. It takes up to 45 days before you can schedule. You will get an email from ASCP to let you know that you can schedule your exam. When applying for your exam you must send a letter stating where/who you want your results sent. In the state of Louisiana you must have a license to work and your results must be sent to the Louisiana State Board of Medical Examiners (LSMBE). ASCP and ASCLS also offer practice exams online.

To be licensed I would first recommend getting your background check and finger prints done. Check your area for places this can be done. There are many forms and certificates that need to be sent to LSBME. You will need to send your birth certificate, your transcript, certification results, and the application. Go to lsbme.la.gov. Once there click on Clinical Laboratory Personnel. Under that page there is a link to the application. Download that application. If you have questions your professors will be able to help or you can contact state board.

I hope this information helps. If anyone has any questions please do not hesitate to ask. Below is a list of addresses and links you will find helpful.

ASCP Board of Certification

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ascp.org

LSBME

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Tales From The Past

Can you imagine a Medical Laboratory without any Automation, Computers, Medical Companies that supply chemical test kits and reagents for Serology, Bacteriology, Hematology and Chemistry testing?

When I started working at St. Francis Hospital Laboratory back in the mid 1950's, our Laboratory had none of these things. Our Laboratory consisted of Bunsen burners, Chain-o-Matic analytical balances, water baths kept at exact temperatures, glass pipettes, glass syringes for drawing blood samples. Each syringe had a number on it. There were no two alike. A barrel of a syringe may have #122 on it and you had to find number #122 cylinder to fit it. They were hand made.

We would check the washroom and find hundreds of these syringe parts. These syringes were hand washed, reassembled daily, wrapped and autoclaved to be used the next day. Vacutainers, Butterflies and disposable needles were not invented at this time.

The Chemistry Department Manual looked like a Betty Crocker Cook Book. Every test was run by hand. All reagents were made from concentrated acids, bases, salts, substrates and buffers. The procedure manual had the steps to run the test and on the back you would find how to make each reagent. YES, All reagents were made from Large Concentrated Stock Chemicals.

Dean McBride, our Laboratory Manager found an instrument that measured Sodium and Potassium levels in a Portland Cement Company. He modified this flame photometer that used acetylene compressed gas. When we turned this thing on, it sounded like a huge jet engine. Now our Lab could run serum sodium and potassium levels on our patients. Does anyone remember the B.M.R. machine? Basal Metabolism Rate was the first Laboratory test to estimate Thyroid Function. This was an instrument that measured how long it took for a person to breathe a measured amount of oxygen. If they breathed this too fast, the patient was possibly hyperthyroid. If they took a long time to breath this measured amount of oxygen, the patient was possibly hypothyroid.

The first blood test for Thyroid function was the P.B.I. Protein Bound Iodine test. St. Francis Laboratory was one of the first places that this test could be done. It was a two day process. We had blood samples sent in from all over Louisiana, Arkansas and Mississippi to run P.B.I. tests. Eloise Sayre and Dean McBride set this test up in the early 1950's.

We had no "Serum based Standards" that now can be purchased from Medical Supply Houses. We would take a hundred or more serum samples from healthy people, mix them well and freeze these samples in small test tubes. This was our only way of establishing normal ranges in testing.

Bacteriology Techs made all of their own media. The recipe for blood agar, chocolate and all others were made from basic ingredients and sterile water. Techs were responsible for making Gram's Stain from crystal violet, iodine and water. This was used to detect Gram Positive and Gram Negative bacteria.

*Would you believe for Pregnancy Testing back in the Fifties, we used live African (*Xenopus laevis*) female frogs. Female urine was injected into the lower back of a frog and the next morning if the test was Positive, the frog would lay hundreds of eggs. Once we used this frog, we could not use it for testing again for a month.*

Every morning we would have to change the water and food in each frog's container. This job was usually done by the newest Med Tech in the Lab.

Hematology made all of their chemicals and stains. All blood counts were done by hand using a hemocytometer and microscope. Wright's Stain and Giemsa had to be made from powder and aged before using. Saline was the solution for all blood counts. This was diluted from crystals of sodium chloride, using the analytical balance.

Every hospital Blood Bank drew their own donors. Technologists would cross match and take the pints of blood to the patient's room, start the I.V. and stay until the patient was checked for any allergic reaction. There were no Phlebotomists in those days.

Automation began to appear near the end of the 1950's. The first automated Blood Cell Counting Device was the Model A Coulter Counter. St. Francis had one of the first Coulter Counters in the USA. This was because Mr. Joe and Mr. Wallace Coulter lived in Monroe. They were Louisiana Tech Graduates and invented this instrument to count red and white blood cells. Later models would accurately count platelets, size and shapes of abnormal red and white blood cells.

A year later, Technicon Corporation from Tarrytown, New York invented the first Chemical Auto Analyzer. It would automatically run blood glucose and one or two other tests.

There were no "Technical People" back in those days. A Medical Technologist would travel to New York, Los Angeles, or Chicago and learn how to assemble, operate and disassemble these instruments to be shipped back to their Laboratories. We were our "Own Repair Personnel". Later, each company had their own trained people to visit and repair these instruments, on site.

A year or so later, an instrument to run Prothrombin Time came out on the market. After that, many other companies started making automated analyzers. Names like Abbott, DuPont, Dade and Fisher started to appear. Now there are hundreds of Automated Laboratory Instrument companies.

Computers came into all types of businesses during the Seventies. Hospital Laboratory computers were first seen around the early eighties. This led to faster ordering, reporting of test results and more accurate Quality Control.

Today we are seeing many bedside Laboratory testing kits. I am a firm believer that Laboratory Testing should be done in the Laboratory. Medical Technologists are trained to not only perform the tests but also understand the value of Quality Control and running known standards to calibrate these kit type tests.

Dean McBride, Bonnie Hales, Simmie Sayre and Eloise Sayre, all Registered Medical Technologists were my teachers at St. Francis Laboratory. They were all ahead of the times in Laboratory Testing. I appreciate their time and patience helping me to become a Medical Technologist.

Bill Wilson, MT (ASCP) Ret.

Editor's Note

I just wanted to say thanks to all of those who took time out of their schedules to submit articles. Help us pass this newsletter along by forwarding it to all of your coworkers or by posting it somewhere in your lab. This is just a reminder that we are now accepting ads to go into the newsletter. If anyone has any article that they would like to be put in the next edition of the Bayou Tech send the article to either lasiter@ulm.edu or evan.c.ashley@gmail.com. Also any suggestions of things you would like seen in the newsletter can also be sent to the previous email addresses.

Thanks,

Evan Ashley, MLS (ASCP)^{cm}

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