



The Bayou Tech

September 2018

In This Issue

- President's Corner
- The Political Rundown
- ASCLS Connect
- ASCLS Annual Meeting Review
- A Case In Microbiology
- Rabies Alert!
- Act with PAC
- Leading the Way with Mentorship
- Student Member Highlights
- At Home Scientist
- ASCLS Chicago – A Photographic Review

Contact Us

<https://www.lscls.org/>

President's Corner

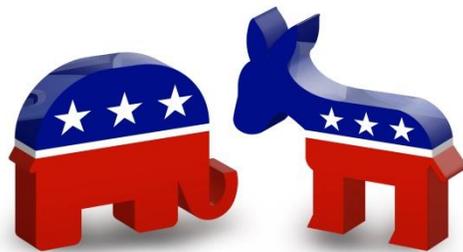
Welcome to a new and exciting year of LSCLS! We had a great 2017-2018 year and 2018-2019 is going to be even better. LSCLS was well represented at the three national meetings (CLEC in February, Legislative Symposium in March, and the Annual Meeting in Chicago). The 2018 ASCLS-MS/LSCLS meeting held in Biloxi was a huge success. In June, the first edition of the Bayou Tech in three years was published. Also, in August the redesign of the LSCLS website was launched. Take a moment to look around www.lscls.org. We are already off to a great start this year!

During the ASCLS Annual Meeting, the House of Delegates voted for changes to the membership categories. One of these changes include renaming the first year professional membership category to ascending professionals and extending the length of time you can join in this category to five years. Student members are now known as developing professionals. Ascending professionals and developing professionals join/renew at a reduced membership rate. If you haven't renewed your membership, NOW is the time to do it. Grab a friend and coworker, convince them to join, and sign up today! To find out more about the new membership categories and to renew online visit www.ascls.org.

We have a busy year ahead of us. Planning for the 2019 LSCLS/ASCLS-MS Bi-state meeting is well underway, and we have some exciting events planned. Mark your calendars for April 8-11, 2019 as Pathogen Park will be coming to Monroe! Our policies and procedures are being updated as well. If anyone is interested in becoming more involved in the organization, please contact me and I will be glad to find a place where your talents and skills are put to good use. The fall board meeting will be held soon, so be on the lookout for an announcement. As always, please contact me if you have any questions or concerns (lsclsorg@gmail.com).

Karen E. Williams, MT (ASCP)
LSCLS President

The Political Rundown



ASCLS strategy regarding PAMA (Protecting Access to Medicare Act) right now is to target Republicans seated on the right committees and with tough re-election fights in the fall. There are also some Democratic Representatives and Senators who have expressed to ASCLS because of our Legislative Symposium visits by members, that they are supportive of repealing or fixing the pieces of PAMA we have suggested need to be fixed. There will probably be another grassroots push targeting some of the critical Congressmen to get our members in those districts to call or contact these Congressional individuals.

This will be a hard task, and the challenge is to get good talking points supported by data to show that PAMA is really having an impact on patient care. It is felt that no action we can take will

change the definition of applicable lab and that it will stand. That is why the political side of this issue is so important.

The CLIAC Chair, after receiving the developing white paper on the laboratory workforce, came away with a list of recommendations very helpful to us. They are using the paper as a kind of baseline because the available workforce data was presented so well. With this from CLIAC and the CDC's help, there is the beginning of momentum recognizing this as a serious problem; they are potential allies for us as we seek legislative help.

A Washington state watchdog organization has put a \$282 million price tag on what it calls wasteful spending for low-value clinical laboratory tests and other procedures in a single year in the state. Eleven common tests, procedures, and treatments such as preoperative tests, laboratory tests prior to surgery, and too frequent cancer screenings account for 93% of low value services and 89% of the estimated wasted spending.

Many pathologists and clinical laboratory managers are familiar with the "Choosing Wisely" initiative: a collaboration of involving most medical specialty associations. These associations are highlighting a list of medical laboratory tests and other diagnostic procedures ordered inappropriately with greatest frequency.

Artificial Intelligence is becoming highly popular in the healthcare industry and the clinical laboratory could be affected. Pricing is one of the biggest concerns for patients and government entities. Pressures to lower cost and improve efficiency are present in the clinical laboratory industry.

One cost-cutting measure reported by *Dark Daily* involves shifting healthcare payments toward digital assets using blockchains. The technology digitally links trusted payers and providers, including medical laboratory test results. Blockchain refers to a decentralized and distributed ledger enabling the interface of computer servers for making, tracking, and storing linked transactions. It has the potential to transform healthcare placing the patient at the center of the healthcare ecosystem and increasing the privacy, security, and interoperability of health data. This technology could provide a new model of health information exchanges by making electronic records more efficient, disintermediated, and secure.

Submitted by Cheryl Caskey MLS(ASCP)^{CM}

ASCLS CONNECT

Looking to engage more and interact with fellow laboratorians from all over the United States?

ASCLS has a tool available to all members that allow you to connect with others in selected areas of your interest!

Karrie Hovis, former ASCLS staff member, shares her insight and outlines the specific instructions to activate your community.

"ASCLS Member Communities, a.k.a, ASCLS CONNECT, are a valuable member benefit. Not only is the Louisiana State Society community available to you, but there are other communities that you might find of interest, i.e., the various scientific assembly disciplines, lab humor, etc...

The ASCLS CONNECT communities are a great member benefit. Explore the options that are available to you. Engage in discussion, connect with other ASCLS members and build your network. Our society is only as strong as its members. Make your voice heard!"

Check the following link for detailed instructions!

<https://docs.google.com/document/d/1vSOe3b2sX3QpSaCSj4tkP9r4lloTwh7WtsyvJOjH0-8/edit>

ASCLS Annual Meeting - In Review

The 2018 ASCLS Annual Meeting in Chicago was a huge success! The annual meeting is a great time to get away from home for a few days to relax, network with colleagues, and attend some fantastic educational sessions. As a Louisiana delegate at the meeting, I attended the ASCLS Board of Directors Meeting at the beginning of the week and finished the trip at the ASCLS House of Delegates. The delegates approved various changes to the ASCLS By-Laws and approved name changes to the levels of ASCLS membership. There were several opportunities to visit the ASCLS/AACC Clinical Lab Expo where I was able to visit with vendors and check out the latest lab products and technology. I had the opportunity to attend a variety of educational sessions including Laboratory Test Selection, Globalization of Infectious Disease, Case Studies/Member Submitted Research, and Hot Topics in Chemistry. I have to admit, the highlight of the trip was meeting Sten Westgard, when he spoke about Westgard Rules (I even sat in the front row for that session). Let me add, the week wasn't all work and no play – I am a baseball fanatic, so I had to catch a White Sox game with friends and colleagues while I was there and take a walk down to the Navy Pier. It was a great honor to represent LSCLS as a delegate to the national meeting. For those who have never been to an ASCLS National Meeting, consider going as an LSCLS delegate – it is a fantastic experience!

Submitted by Stephanie Blackburn MLS(ASCP)^{CM}

A Case In Microbiology

Interactive Case Studies in Clinical Microbiology by Nicholas Moore, Ph.D.

Presented at ASCLS 2018 Annual Meeting

Synopsis by Lynda Britton, Ph.D., MLS(ASCP)^{CM}

A thirty-two year old woman presented with abdominal pain that began about 1:00 a.m. The pain was crampy and located in her upper left quadrant. The pain did not radiate and she did not have nausea, vomiting or diarrhea. She did not have fever and no one else in her family was ill. A home pregnancy test was positive.

The patient was a physician assistant in a dermatology practice. The night before becoming ill, she ate a salmon fillet and vegetables. She ingested a small fish bone, and when she examined the fish for more bones, she found a small squirming worm.

An endoscopy was performed, and a 2 cm by 1 mm worm was seen in the proximal antrum burrowing into the stomach mucosa. It was removed and the burrowing site was biopsied. There was mild diffuse erythema throughout the stomach and patchy erythema in the duodenal bulb. The biopsy showed localized eosinophilia but no worms.

The diagnosis was anisakiasis caused by the accidental ingestion of nematode larvae of *Anisakis simplex*, *Anisakis physeteris*, *Anisakis pegreffii*, or *Pseudoterranova species*. These worms have worldwide incidence but most cases are reported from Japan, the Pacific coast of South America and the Netherlands, where there is high incidence of eating raw fish.

Symptoms usually begin one to eight hours after ingestion of the contaminated fish or squid. The larvae burrow into the gastric and intestinal mucosa and begin to mature. Acute epigastric pain, nausea, and vomiting may occur. Pruritus and tingling may develop in the posterior oropharynx. The diagnosis is usually made clinically when the patient has a history of ingesting undercooked fish. Larvae can be recovered during endoscopy or surgery. Because humans are incompatible hosts, the larvae die within a few days. Removal of the larvae cures the patient or they can be treated with an antihelminth drug such as albendazole.

Anisakiasis can be prevented by cooking the food to 63°C, freezing it for seven days at -20°C, or freezing at -35°C for 24 hours. Pickling, salting and smoking do not kill the larvae.

Rabies Alert!



DeSoto Parish has been experiencing disturbing episodes of rabies threats since February, all involving skunks. The DeSoto Parish Animal Services has resolved about 14 incidents of suspected rabid skunks. At least 4 skunks have tested positive for rabies. The most recent case was a skunk found around the Linwood Road area in Stonewall, LA.

Rabies is a preventable viral disease that affects the central nervous system (CNS) and usually results in fatal encephalopathy. The rabies virus is an RNA virus belonging to the Rhabdoviridae family, which includes three distinct genera: Lyssavirus, Ephemerovirus, and Vesiculovirus. The virus is found in saliva and brain tissue of infected mammals. Thus, transmission of the virus is zoonotic, typically associated with a bite, scratch, or other contact with bodily secretions or nervous system tissue from a rabid animal. The primary reservoirs of rabies virus variants in the United States are insectivorous bats and wild carnivores, such as raccoons, foxes, and skunks. Raccoons account for the majority of rabies virus variants in the eastern United States, while skunks and foxes account for viral variants throughout the rest of the country. Rabies virus variants found in bats are widespread throughout the country.

In the early stages of infection, diagnosis may be difficult, as symptoms such as fever, headache, and general weakness are very similar to many other infections. As the disease progresses however, more specific symptoms appear such as insomnia, agitation, confusion, partial paralysis, and hallucinations. Since viral replication occurs in the CNS and salivary glands, very peculiar symptoms like hypersalivation (foaming of the mouth), difficulty swallowing, hydrophobia (fear of water), and aggressive biting behavior are noted, and are thought to maximize the chance of infection to a new host. The acute period of rabies disease ranges from 2 to 10 days. Once specific symptoms are obvious, the disease is almost always fatal. Although prevention is available in the form of immune globulin injections and the rabies vaccine, survival is rare. According to the CDC, less than 10 documented cases of survival have been reported.

Diagnosis of rabies in humans must be done by a series of tests, as no one test is sufficient. Saliva is tested by polymerase chain reaction (RT-PCR), serum and spinal fluid are tested for anti-rabies antibodies, and skin biopsy specimens from the base of hair follicles are examined for rabies antigen. Histological examination of CNS tissue may also reveal the presence of Negri bodies, round inclusions in the cytoplasm of nerve cells. Direct fluorescent antibody testing may also be used to reveal rabies antigen in brain tissue.

In light of the recent episodes of rabies infected skunks in DeSoto Parish, the public is cautioned to keep domestic pets up to date on rabies vaccination, to avoid leaving children and pets unattended outdoors, and to be aware of abnormal wildlife behavior. Abnormal wildlife behavior includes: showing no fear of humans, showing no fear of domestic pets, nocturnal animals being active in daylight, staggering or falling animals, and bats on the ground or low walls. People noticing any of these should report the sighting to animal control. Further information about rabies surveillance, prevention, and treatment throughout the state can be found at the Louisiana Department of Health website: <http://ldh.la.gov/index.cfm/page/790>.

References:

Centers for Disease Control and Prevention. (2017). Rabies. Retrieved from: <https://www.cdc.gov/rabies/index.html>

Louisiana Department of Health. (n.d.). Community and Preventive Health. Rabies. Retrieved from: <http://ldh.la.gov/index.cfm/page/790>.

Vance, Lynn (2018, August 3). Skunk tests positive for rabies in DeSoto Parish. Arklatex Homepage. Nexstar Broadcasting, Inc. Retrieved from: <https://www.arklatexhomepage.com/news/local-news/skunk-tests-positive-for-rabies-in-desoto-parish/1345186329>

Submitted by Kristin Butler MLS(ASCP)^{CM}

Act with PAC



The annual meeting is always an informative and exciting experience. This year the great city of Chicago hosted ASCLS/AACC, and I found that the city has a lot to offer after sessions ended from unique pizza and hotdogs to architecture that can be viewed from a riverboat experience. This was my second year serving as the Region VII PAC Director, and this event is where ASCLS takes in the most donations. For those of you unfamiliar with PAC, I have sampled a section from our website.

“The acronym PAC stands for Political Action Committee, a voluntary nonprofit organization created to provide financial and educational support for the election campaigns of responsible candidates for Congress.

ASCLS/PAC offers members a simple, convenient way to influence the elections process and actively participate in the federal decision-making process. Through the PAC, ASCLS members are able to unite together to gain the attention of candidates for national political office. **Now more than ever**, laboratory professionals must take an active role to see that congressional reforms of American health care support cost-effective, high-quality clinical laboratory services. You can help by supporting ASCLS/PAC. Each dollar you give improves the chances that informed and capable people will be elected to Congress to enact responsible reforms in America's health service delivery system.”

In short, there are many issues that our profession faces now and will continue to face; many of them will not and cannot change without engaging our elected officials on the local, state and most importantly the federal level. ASCLS is the only organization that has representation for Laboratory Professionals and is actively engaging our elected officials. We cannot solicit non-ASCLS members even if they are laboratory professionals; we need your voice and contributions to continue to fight for the betterment of our profession. At times we all experience financial hardships that can make donating money seem impossible. But I have great news for you: your voice can still be heard via our PAC even if you are unable to donate. The Legislative Symposium is an excellent time to meet our elected officials face to face to provide them with the insight they desperately need to make a positive impact on our profession. I encourage all members of LSCLS to attend this event at least once, because the more voices we have the better. There are many members of LSCLS that donate regularly via the website, spring meeting and the annual meeting. I personally put aside \$5 each week to give to PAC in an effort to budget effectively in order to continue to reach the Gold Pin level the past 2 years for this worthy cause. Please join us in advocating for real change for current and future Laboratorians in our state and nation.

Below I have attached links to the PAC website and the Contribution form for those who are seeking more information or those ready to be included in the change they wish to see in our profession.

Go to www.ascls.org and then follow links to Advocacy-Issues → PAC

http://www.ascls.org/images/PAC/Voluntary_Contribution_ASCLS_PAC_2016-17_201610.pdf

Submitted by Luke Caruso MLS(ASCP)^{CM}

Leading The Way With Mentorship

ASCLS has revitalized the Mentorship Program at a national level with hopes of constituent societies adopting the methods used to create their own. The goal of the Mentorship Program is to pair one individual with another individual that has more experience with whatever the mentee has interests in. The first year in the revitalization of the program has already begun. We are proud to announce that nationally, we will have close to 34 pairings between mentors and mentees. Here are some responses from some of the Mentors/Mentees that completed the pilot program:

"I wanted to join the mentorship program to gain more knowledge and experience from those who have been with the profession for years. It was nice to get a different perspective on issues from outside your own mentors within your state and local societies."- Mentee

"I wanted to help guide new professionals through the complicated environment that is ASCLS and Medical Laboratory Science in general. I wanted to be there for someone when they had questions regarding our organization as well as job related questions."- Mentor

LSCLS has already started to adopt a Mentor/Mentee role regarding our numerous committees. We are hoping this will entice more professionals and students to recognize and appreciate what LSCLS and ASCLS do for our profession. This will also lead to improved succession of committee members by through introduction and experience with committee roles and responsibilities before a member assumes the role as chair.

If you are interested in a committee, but don't know if it's the right fit, we can put you in a mentee role and allow you to observe the chair throughout the year. If you want a list of committees or you would like to sit in on the committee, please do not hesitate to reach out to our president, Karen Williams, or myself. We will accommodate everyone as best as possible. Mentorship is key in not only our organization, but professionally as well. I hope you are all ready for a great year with LSCLS as we have a lot of amazing things planned.



James Gardner, MLS(ASCP)^{CM}
LSCLS President- Elect

Student Member Highlights



Attending the National ASCLS meeting in Chicago, IL was very educational, inspiring, and truly reinforced my passion for the Medical Laboratory Science profession. Many experienced MLS professionals spoke on interesting topics that furthered my knowledge as an MLS student. I met so many people from so many different places who were excited about MLS, teaching, and bringing the best back with them to their workplace. Meeting other students, having fun with jeopardy games, scavenger hunts around town, and dancing it up at the Afterglow party took this experience to another level of "scientists can party too" fun. Many topics of sessions were offered, and I particularly enjoyed going to the Professional Issues Update and learning about "One Voice, One Vision", to promote, recruit and thrive as a profession. I absolutely loved the talk on working with nurses and other medical staff to improve specimen quality and patient care with "A Smile". I cannot wait to share the priceless advice and ideas given to us with my peers at school and in the lab. Seeing so many people dedicated to MLS has a true ripple effect by getting all of us who are just starting out excited about beginning our career. This is the kind of experience that pushes us to want to be involved and do more for our career and to continue furthering our education to make sure we are providing the best quality testing and patient care available. I cannot wait to attend the next annual meeting, and I am so thankful I was able to experience this as a student.

Submitted by Allie Perez
Developing Member Forum Chair, Student at LSUHSC - Shreveport

The Student Experience at the ASCLS Annual Meeting



My first Annual ASCLS Meeting was one of the most intriguing and educational events I have attended. I not only met numerous wonderful people, but I also realized the importance of this organization. ASCLS does so much to educate the public about our profession as well as keep its members up to date with the ever-evolving world of the lab. It is imperative to get involved with ASCLS as a student, so you are fully aware of the issues facing our profession and can continue to spread awareness among your classmates and friends. The individuals of this organization make up one large family and welcome

students with open arms to every event that happens. Most people are thrilled to see students interested in being a part of ASCLS, and many will do everything in their power to aid you in becoming involved. There is so much to learn at the Annual Meeting, from the latest and greatest technologies at the Clinical Laboratory Exposition to the small, ingenious tips that medical laboratory professionals around the world use in their everyday tasks. ASCLS-Chicago was the trip of a lifetime, and I have been inspired to continue my role in the ASCLS family as well as recruit new students and professionals. I cannot wait for Charlotte, NC this upcoming year, and I hope to bring new members with me.

Submitted by Cheyenne Reyes – Student at ULM

At Home Scientist!

Take a Look at Your Own DNA, Without an Analyzer!

Deoxyribonucleic acid (DNA) is a molecule that encodes genetic instructions, which guide the development and function of all known living organisms and many viruses. The DNA instructions are divided into segments called genes, which determine various biological traits. Some of these traits are immediately visible, such as eye color or hair color, and some of which are not, such as blood type or cancer status.

We hear about it all the time in clinical laboratory: molecular testing. If it's not being utilized in your lab yet, chances are that it will be soon. Assays that were once considered far too complex and expensive to be used routinely are now very common in the clinical lab world.

As researchers discover more and more about genes that are associated with certain diseases or abnormalities, clinical laboratory assays are continually being developed to detect these genes.

Genetic testing is particularly useful because of its extreme sensitivity and specificity. It can be used to detect the presence of DNA associated with disease (or infection—microbes have DNA as well) long before symptoms manifest in the patient. Earlier detection leads to earlier treatment, which often leads to more favorable outcomes for the patient. Molecular testing also plays a vital role in monitoring levels of disease present once a patient has begun treatment.

Molecular analyzers may be thought of by some as anecdotal black boxes—what goes on in there anyway? There's often not much to see other than computer-generated graphs at the end of a run. Perhaps the most fun part of setting up a molecular assay is the first step, the extraction of the DNA from the specimen. If concentrated enough, DNA can be visualized as a long, clear, goopy strand.

White blood cells contain DNA that can be used for analysis, so blood is a commonly tested specimen type in the clinical laboratory. However, all other human cells contain DNA as well (mature red blood cells, which do not contain nuclei, are the exception), including epithelial cheek cells that line the inside of the mouth. Did you know you can extract your own DNA, using only a few household “reagents” that you probably already have on hand? This simple procedure is one that all ages will enjoy!

What you will need:

1 clear plastic glass or cup
Drinking water
Table salt
Dish soap, such as Dawn
Ice cold rubbing (isopropyl) alcohol, 70-90%
Wooden sticks, such as popsicle sticks, toothpicks or bamboo skewers

*Note: The greater the percentage of rubbing alcohol, the better the procedure will work. The alcohol should be put in the freezer for several hours or overnight and kept very cold until just before use. Don't worry—it will not actually freeze due to its extremely low freezing point (-128°F).

Procedure:

- To a clean glass or cup, add about 5 teaspoons (~25mL) of water. Using clear plastic or glass will allow you to better visualize your DNA at the end of the procedure.
- Add 1/8 teaspoon of table salt. One salt packet works well if you have it.
- Stir gently until the salt has dissolved.
- Put the salt water solution in your mouth as you would mouthwash. **Do not swallow.** Swish the liquid around in your mouth for at least one minute. It also helps to **gently** bite down or graze the insides of your cheeks with your teeth to help slough cell off.
- After one minute of swishing, spit the salt water solution back into the cup.
- Add ½ teaspoon (~2.5 mL) of dish soap and two drops of food coloring to the cup containing the salt water-cheek cell solution. Mix gently and avoid creating bubbles.
- Tilt the cup slightly and add 3 teaspoons (~15mL) of ice cold alcohol very slowly by letting it drip down the inside of the cup. Be careful so that the two liquids do not mix. You may want to premeasure the alcohol and freeze it in a separate container for ease of adding during the procedure.
- The upper alcohol layer should remain colorless and the bottom layer should be the color of the food coloring.
- DNA will begin to condense in the alcohol layer. It will appear cloudy and feel slimy to the touch. This may take a few minutes to occur.
- With gentle stirring motions, draw the DNA up toward the top of the cup with two wooden sticks. Do not stir vigorously or you may break the DNA into shorter fragments that are more difficult to visualize. Note the viscous clear “strands” that may be drawn upward and out of the alcohol layer.

You have extracted your own DNA! While this procedure isn't quite as sophisticated as the ones used prior to molecular testing, the principles are the same: Salt and water facilitate the collection of DNA-containing cells. Detergent breaks those cells open to release the DNA into solution. Alcohol causes the DNA in the solution to form a semi-solid clump. In the clinical lab, this clump would be further purified and measured and then mixed with other reagents for testing.

Submitted by Lee Ellen Brunson-Sicilia MLS(ASCP)^{CM}

ASCLS Chicago - A Photographic Review



AACC 2018



Lab Heroes
Stago Transform Lab Care

