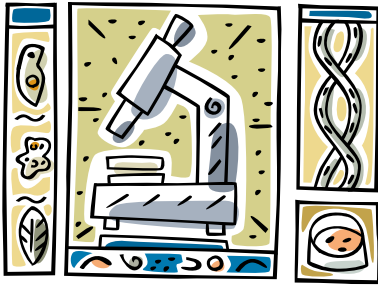


January 2007



Texas Association for Clinical Laboratory Science

TACLS News

Keys to Success

Dave Falleur, TACLS President



At a recent orientation meeting for our senior CLS students at Brackenridge Hospital in Austin, microbiology supervisor, Shonie Pino, was giving a tour of her department. As she discussed what the students would be doing during their rotation there, Shonie mentioned three attributes that they would need: Intellectual Strength, Physical Strength, and Emotional Strength. As she explained why these three strengths were so important, I realized this is very true for not only new laboratory professionals, but experienced laboratorians like Shonnie and me.

Intellectual Strength

This is probably the one area that educators and trainers focus most of their attention. We have worked very hard to change

our curriculum to include new areas of testing like molecular diagnostics and laboratory information systems. Our students are challenged with exams during their didactic classes and clinical rotations. Most of our graduates take at least one national certification examination after graduation. Once they enter the workforce, clinical laboratory professionals must be trained to operate new instruments and evaluate new test procedures. Continuing education is now a requirement for maintaining the certification that we worked so hard to achieve. Building intellectual strength in your laboratory team as well as you personally, is essential for competent, quality laboratory test results. Intellectual strength is also a powerful means to maintain inner strength and a strong sense of self-worth and relevance.

Physical Strength

Although our profession is not as physically demanding as some, there are still many tasks performed by laboratorians that require physical strength. Older, experienced laboratorians remember the days when they were standing at the bench all day. Eventually most departments developed laboratory designs where we could sit and work. In spite of these improvements, there is still a lot of moving around, between departments, retrieving specimens and reagents from refrigerators, and performing patient procedures like phlebotomy.

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Keys to Success (from page 1)

Many healthcare employers have recognized the importance of a physically fit workforce and offer wellness programs, exercise and fitness facilities and training, and incentives for participation in these programs. Research has shown that a physically fit workforce will have fewer absences due to illness, fewer work-related injuries, and reduced healthcare expenses.⁽¹⁾

Emotional Strength

This is probably the most difficult strength to develop. Emotional strength is critical because we do not receive the same recognition as other healthcare professionals for our contributions to a patient's wellness. We have to remind ourselves that every day we save lives by providing a safe blood product for a bleeding patient. We shorten a patient's stay in the hospital by providing the information necessary to promptly treat a patient. It is our scientific knowledge and skill that results in a laboratory report that determines what form of therapy, or which specific antibiotic will be most effective in treating a patient. It is our dedication and perseverance that enables us to carefully monitor laboratory instruments and procedures to assure quality test results.

In studies of burnout among healthcare professionals, research has shown that those individuals who are most resistant to burnout have a strong sense of self-worth, have opportunities to make decisions about their working conditions, and have developed coping mechanisms to handle the stress that occurs every day.^(2,3)

Your responsibilities as a laboratory professional are complex. You must handle stressful situations and handle interpersonal conflict without jeopardizing patient care. Developing your intellectual, physical, and emotional strengths can help you cope with these challenges and succeed.

References

1. Kocakulah, MM and Joseforsky, H. (2002). Wellness programs: A remedy for reducing healthcare costs. *Hospital Topics*, 80, No. 2, 26-30.
2. Rowe, MM. (1997). Hardiness, stress, temperament, coping, and burnout in health professionals. *Journal of Health Behavior*, 21, No. 3.
3. Haber, SL and Inhorn, MC. (1981). Beating burnout in the laboratory. *Medical Laboratory Observer*, 13, No. 11, 44-46.

TACLS Winter Business Meeting in Austin

The TACLS Winter Business Meeting will be held at the Austin Community College Eastview Campus on Saturday, February 10 at 10:00 am. We will meet in Room 8358 in Building 800. The Eastview Campus address is 3401 Webberville, Road. We will have a lunch provided by Jason's Deli.

On Friday morning, February 9, we will be visiting with legislators and their staff at the State Capitol to discuss our plans for laboratory personnel licensure legislation and other legislative issues. If you would like to participate in these legislative visits, please contact Dave Falleur (dfalleur@txstate.edu). We will be meeting at 10:00 AM at the Starbucks at 1001 Congress Avenue in downtown Austin. We will have a list of key legislators that we will be visiting that day.

All members are welcome to attend and participate as we begin our plan for an exciting legislative effort. For more details, contact Dave Falleur, 512-245-3504, dfalleur@txstate.edu or check the TACLS website, www.tacls.org.

El Paso Traveling Seminar

David Falleur

The TACLS Traveling Seminar was held in El Paso on Saturday, January 20 at the Hilton Garden Inn Hotel. There were 30 participants with about 15 students from the University of Texas at El Paso, CLS Program. The PACE approved program was coordinated by Lori Torres, CLS Program Director at the University of Texas at El Paso.



The program began with a presentation by Karen McClure, UT MD Anderson Cancer Center, on the Clinical Laboratory in the Future. Karen discussed the increased use of laboratory testing and problems when inappropriate tests are ordered. The development of new biomarkers for cardiac disease, are just one example of the myriad of confusing tests that are now available to clinicians. Other future trends include personalized medicine, decentralization of healthcare, global healthcare, home care, and electronic medical records. How will these affect clinical laboratories in the future? Many healthcare policy makers believe that our private insurance system will continue into the future and will not be replaced by a national insurance system. This means that pressure will continue for more



cost effective treatment and diagnosis. This should create more opportunities for laboratory professionals in the future. These opportunities include consulting, pharmacogenomics, direct access testing, and oversight of point of care testing in health care facilities and home care.

Dr. Jose Rivera, was the next speaker on the program. Dr. Rivera, Associate Dean for the UTEP/UT Austin Cooperative Pharmacy Program, discussed antimicrobial resistance in the El Paso border region. Dr. Rivera discussed the major mechanisms of antimicrobial resistance and the increasing incidence of resistance in the US. Dr. Rivera described a recent study conducted in El Paso and Juarez, Mexico, which indicated a higher incidence of MRSA in El Paso than in Juarez. This was an unexpected finding because it was thought that with the availability of low cost drugs in Mexico there would be a greater prevalence of MRSA in Mexico. Dr. Rivera then discussed new drugs that can be used in cases of antimicrobial resistance. Most of these drugs have potentially serious side effects and can be much more expensive to use. Despite these problems, newer agents with MRSA coverage will play a larger role in the treatment of serious infections.

After a refreshment break, Peter Hu, UT MD Anderson Cancer Center, discussed the

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applications of clinical cytogenetics in prenatal, postnatal, and cancer patients. Peter provided an interesting review of the history of genetics. The use of genetics in medicine began in the late 1950's with the discovery of trisomy and Down Syndrome and has continued to advance in the



past ten years. Peter described the specimens used for cytogenetic analysis and the importance of proper collection and handling. Automated technology has been developed which improves the ability of cytogenetics laboratories to harvest cells for analysis. After cells have been harvested and fixed, the chromosome bands are stained using a giemsa stain and trypsin. A chromosome karyotype is created by identification of individual chromosomes based on their size, shape, and banding characteristics. A system for cytogenetic nomenclature, the ISCN (International System for Human Cytogenetic Nomenclature) is used to describe the karyotype. Different abnormalities were illustrated including aneuploidy, translocations, deletions, insertions, duplications, inversions, isochromosomes, and ring chromosomes. Cytogenetic testing is also used in the diagnosis and treatment of hematologic malignancies. Examples of cytogenetic abnormalities found in acute lymphoblastic leukemia, acute myelogenous leukemia, chronic myelogenous

leukemia, polycythemia vera, and myelodysplasia were reviewed. Molecular cytogenetics testing is also becoming a valuable diagnostic aid for cancer patients. These techniques include Fluorescent In Situ Hybridization (FISH), Spectral Karyotyping (SKY), and Comparative Genomic Hybridization (CGH Array). The newest technique (CGH), is one of the most exciting, because it enables the cytogeneticist to use hundreds of molecular probes to identify various genetic abnormalities which occur in various types of cancer.

Lunch was provided by Lonnie Speir, Microscopy Sales Specialist from McBain Instruments. Lonnie set up a new Leica microscope and provided literature on the Leica microscope line. During lunch, John Wentz, UT Tyler/UTMB discussed licensure and certification for clinical laboratory professionals. John reviewed the current status of licensure of clinical laboratory personnel in the U.S. and the push towards licensure in Texas.



Dr. Delfina Dominguez, from the CLS Program at UTEP discussed *Bordetella pertussis* and the increase in *B. pertussis* infections in Texas and the El Paso area. Dr. Dominguez described the epidemiology, clinical features, and pathogenesis of pertussis. A major concern is the increased rate of infection in older children, young adults, and the elderly.

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El Paso Traveling Seminar

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Laboratory testing for pertussis includes culture, direct fluorescent antibody testing, and PCR. The advantages and limitations of these methods were discussed. A major problem with detecting pertussis is the specimen collection procedure, which requires a nasopharyngeal swab. If specimens are not collected properly, the laboratory will not be able to correctly identify these organisms. Dr. Dominguez then reviewed a study to identify cases in pertussis in patients aged 2-18 years. Eighteen positive samples were identified from patients living in El Paso and Juarez. All 18 were identified and confirmed by PCR in two different laboratories. Only one of the 18 was detected by culture alone. It appears that pertussis will continue to have a high prevalence in El Paso and throughout our state. Clinical laboratory scientists who work in microbiology laboratories should be aware of this highly infectious disease and its prevalence and the likelihood of false negatives with traditional culture techniques.

The powerpoint presentations from these presentations will be available on the UTEP CLS program website, www/academics.utep.edu/cls. For more information contact Lori Torres at UTEP. Lori's email is lorit@utep.edu.

Dates to Remember:

TACLS Winter Business Meeting
February 9-10; Austin, TX

Clinical Laboratory Educator's Conference
February 22-24; Louisville, KY

Legislative Symposium
March 19-20, Washington, DC

TACLS Annual Meeting
March 22-23; Solana Marriott Hotel, Westlake, TX

National Medical Laboratory Professionals Week
April 22-28, 2007

ASCLS/AACC Annual Meeting
July 17-21, 2007, San Diego, CA



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**TACLS Legislative Day and Winter
Business Meeting
February 9-10, Austin, Texas**



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