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Upcoming Events
Dear Colleagues,

Fall, when seeds planted earlier in the year yield fruit.

This year the ASET Board of Trustees has focused on strategic planning, engaging in a consideration of ASET’s Strengths, Weaknesses, Opportunities and Threats, conducting external and future environmental scanning, and a member needs and satisfaction survey. These activities culminated in a facilitated strategic planning session in St. Paul, MN, preceding the 2012 ASET Annual Conference. The product of the board’s strategic planning session were: (1) minor revisions to the Society’s vision and mission statements, (2) agreement on a statement of strategic values, (3) consensus on five strategic critical goals and desired outcomes to be achieved by 2015, and (4) identification of key metrics for assessing whether the desired outcomes have been achieved.

Here are the key components of the strategic plan:

(1) Revised Vision and Mission Statements

Vision Statement
ASET – The Neurodiagnostic Society is the premier membership organization of professionals in the neurodiagnostic field. As the leader of the profession, we are the catalyst for collaboration. As a result, patients receive the highest quality care in neurodiagnostics, thus improving their health and well-being.

Mission Statement
- ASET – The Neurodiagnostic Society provides leadership, advocacy and resources that promote professional excellence and quality patient care in neurodiagnostics.
- As a membership organization, ASET advances the field by serving member needs, defining and endorsing standards of practice, providing innovative educational opportunities, promoting the profession, and building coalitions in allied health and other communities of interest.
- Neurodiagnostics includes but is not limited to: Electroencephalography (EEG), Evoked Potentials (EP), Nerve Conduction Studies (NCS), Polysomnography/Sleep technology, Intraoperative Neurophysiological Monitoring (IONM), Long Term Monitoring (LTM), and Intensive Care Unit Continuous EEG Monitoring (ICU/cEEG).
(2) Statement of Strategic Values

The following strategic values have been identified by the ASET board as necessary and desirable core competencies so that ASET can achieve the agreed-upon critical goals and desired outcomes:

- Adopt a long term strategic perspective and direction
- Marketplace aggressiveness and competitiveness
- Energizing, visionary and collaborative leadership
- Excellence in all we do

Critical goals and desired outcomes for 2012 – 2015

- Individual states implement licensure for neurodiagnostic professionals
- The value of neurodiagnostic professionals in achieving better patient outcomes is established through research and messaging
- Neurodiagnostic practitioners become active “owners” of ASET
- The Neurodiagnostic education system supports the development of an adequate and qualified neurodiagnostics workforce
- Students are actively recruited and attracted to the field of neurodiagnostics

In order to actualize the 2012-2015 strategic plans, the board has assigned each critical goal to one or more ASET committees or task forces.

The leadership of ASET is passionately committed to the long-term vision for the progress of the organization and to providing the best possible service to its membership so that our professionals, and ultimately, our patients, will benefit. Feedback on our progress towards achieving these goals is welcome.

Warm regards,

Judy

FROM THE EXECUTIVE DIRECTOR’S DESK

ASET Adopts Chapter Program
By Arlen Reimnitz

At its July 31, 2012 meeting in St. Paul, MN, the ASET Board of Trustees voted unanimously to adopt a Chapter Affiliate program. Under the program local, state and regional neurodiagnostic societies, and new neurodiagnostic grassroots organizations in development, may petition ASET to be charted as an ASET chapter. The board’s adoption of the Chapter Affiliate program was subject to endorsement by local, state and regional neurodiagnostic society presidents present at the August 3, 2012 Presidents Roundtable meeting in St. Paul. Those present at the meeting unanimously endorsed the

The ASET Board of Trustees adoption – and local, state and regional society endorsement – of the Chapter Affiliate program is the culmination of two years of development, including multiple cycles of reviews and comments by the local neurodiagnostic societies and related stakeholders, and open discussion by ASET members at the 2011 ASET annual business meeting.

The Chapter Affiliate program provides for the legal formalization of relationships between ASET and local, state and regional neurodiagnostic societies. While nothing in the affiliate agreement or chapter charter creates any association, joint venture, partnership, or agency relationship between ASET and local societies, the program does identify certain corporate formalities and tax and reporting obligations that local organizations must meet in order to be charted as an ASET chapter. It also identifies the specific obligations that ASET and its chapters have to each other. Even though there have always been some shared memberships between the various entities, heretofore ASET and all of the local societies have been operating independently of one another.

There is no requirement for an established neurodiagnostic society to become a chapter of ASET. Petitioning to become a chapter of ASET is entirely a voluntary decision on the part of the local society boards and their memberships. However, there are certain advantages that will accrue to organizations that petition to become chapters, including assistance in membership renewal and collection and processing of chapter dues; assistance in chapter membership database maintenance; inclusion in ASET’s group non-profit tax exempt filing status; possible inclusion in ASET’s umbrella Directors & Officers Liability insurance coverage; improved promotion and visibility of chapter member programs and events; and membership growth at the local level.

Once a chapter has been established, there is no requirement that an ASET member who lives in the geographic territory covered by that chapter has to also become a member of that chapter. Similarly, there is no requirement for a member of a chapter to also become a member of ASET. Under the program adopted the decision to join both ASET and a chapter is entirely a voluntary one. There are no restrictions to the number of chapters that an individual may join. For example, if an individual resides in a state which has a state chapter, but that state also falls within a region which has been chartered as a chapter, the individual has the option to join just the state chapter, just the regional chapter, both, or neither. The Chapter Affiliate program does provide opportunity for cost-savings in member dues to individuals who join both a chapter and ASET, but it will be the prerogative of the chapter to establish the level of savings.
The Chapter Affiliate program not only provides a mechanism for established local, state and regional neurodiagnostic societies to transition to become an ASET chapter, but it encourages individuals interested in establishing a neurodiagnostic society in a territory or state for which no society currently exists to organize and become chartered as an ASET chapter. To that end, ASET has developed a toolkit that provides a roadmap and templates for organizing a chapter in those territories in which no local neurodiagnostic society currently exists. Individuals interested in organizing a start-up chapter may obtain the toolkit by contacting the ASET Executive Office.

As chapters are chartered they will be posted along with complete contact information under the Membership tab of the ASET website. On a quarterly basis, ASET will update its membership applications to provide for the option of individuals joining ASET to also join one more chapters chartered thus far. Beginning with the ASET dues renewal notices for the 2014 membership year, members will have the option to join a chapter(s) or renew their chapter membership as part of their ASET member renewal. One-hundred percent of chapter dues collected by ASET will be rebated to the applicable chapters on a quarterly basis.

Once ten entities have been chartered as ASET chapters, a Chapter Presidents Council will be formed. The council will be comprised of each chapter president. Each council member will have full voting rights on matters brought before the council. The Chapter Presidents Council will be empowered to request and receive reports from its members, advise the ASET Board of Trustees on matters pertaining to areas of common interest, and initiate proposals for consideration by the ASET Board of Trustees. The chair of the Chapter Presidents Council will be elected from among and by the council. A proposed amendment to the ASET Bylaws will be placed before the membership at the 2013 ASET Annual Business Meeting that would provide for the Chapter Presidents Council chair to also serve as a seated and full voting member of the ASET Board of Trustees.

Part of the reasoning for adopting the Chapter Affiliate program is that establishing and growing neurodiagnostic organizations at the state level has the potential to contribute to membership growth both at the local and at the national level. More important, establishing ASET chapters in each state can lead to improvement of quality patient care by making continuing education opportunities more readily available at the local level as well as encouraging technologists who currently may be isolated to network with local peers and outreach more often with the national society. Equally if not even more important, having ASET chapters with credible membership numbers in each state is nearly a prerequisite to marshalling forces to defeat proposed state legislation and regulations/rules that may have a negative impact on the practice of neurodiagnostics, and to advance legislation and regulations/rules at the state level favorable to the profession.

Chapter Affiliate program packages, including a chapter formation petition, affiliate agreement, model chapter bylaws and chapter data sheet, are available upon request by contacting the ASET Executive Office. As chapters are organized and chartered in your
state, I hope that will consider joining one so that you can take advantage of the continuing education opportunities and member benefits that will be available to you locally. If you are interested in forming a chapter, or if you would like to know if there are others in your geographic region who have expressed interest in forming a chapter and would like to volunteer to help in the endeavor, please contact me.

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**OPINION EDITORIAL**

**Professionalism, Positioning and Planning: Responding to the Market and Maintaining Standards**

*An Opinion Editorial by Janice Walbert, R. EEG/EP T., ABRET Executive Director*

Most are aware of the impact the poor economic landscape has had on our personal lives. You may have noticed ripples in your workplace, as well. For instance, reductions in personnel, financing for education/continuing education and purchasing have been seen across the country. To add to the instability and uncertainty, pending changes in healthcare have the potential to impact funding for subspecialty care, including reduction in access and delays in care. Do not be surprised to see consolidation of hospital systems and plans to bundle services. To bring things home, take a look at the competition in allied health. An increasing number of professions have been laying claim to neurodiagnostic procedures and services within their licensure laws and scopes of practice, in an effort to increase their value in the healthcare setting.

What should our response be as we ride the wave of uncertainty?  
**Business as usual?**
**Brace for impact?**
**Bank on repeal of the Affordable Care Act?**

Instead of the above, how about focusing on things you can control.  
**Be aware!**
**Become involved!**
**Better your professional self!**

You can *become aware* by listening to the dialogue and paying attention to the changes and the time-table for change. You can *become involved* by joining your professional organizations and supporting their efforts toward regulatory advocacy and protection of the Neurodiagnostic Scope of Practice. Doing both of these things is an excellent start to *bettering your professional self*.

There are some quality initiatives within the Affordable Care Act that are focused on increasing the level of care and ensuring competency among healthcare workers. Without doubt, all patient populations are due the highest possible level of care. This is something all healthcare workers can and should have a vested interest in; providing the best care, taking pride in your work, and treating patients with respect and dignity. It is
more important now than ever to demonstrate your value by serving with confidence and competence.

How does one demonstrate competence in the field of Neurodiagnostics (NDT)? I would argue that since there is no required or mandated minimum education or licensure, the best way to establish your level of competence is to earn credentials. Neurodiagnostic credentialing has been the business of ABRET for the past 48 years. That said, how does ABRET respond to the changes in the market, healthcare environment, and industry while maintaining standards? It certainly cannot be status quo. It is of the utmost importance for the credentialing board to be aware, to be responsive and to be forward thinking.

ABRET spends significant efforts evaluating trends, market needs and statistics before changing processes or setting eligibility requirements. In 2009 ABRET sponsored a Summit with members of ABRET, ASET and ACNS to address workforce shortages, collaboration, regulation and public recognition. This lead to several initiatives including a revised Scope of Practice, national advertising, combined marketing efforts, and provided a list of opportunities to explore. Furthermore, it facilitated dialogues with ACNS, AAN Clinical Neurophysiology Interest Section, NAEC and others who support excellence in neurodiagnostics.

In 2011, ABRET hired a credentialing consultant to facilitate a session on Trends in Credentialing. This session highlighted some of the concerns regarding the way credentialing is done. For instance, the number of times exams are offered each year, requiring a certain number of studies to document experience, discontinuing the EEG oral examination, reducing the cost and time needed to earn ABRET credentials were all discussed.

All of the professional organizations working to benefit the neurodiagnostic profession have had to be flexible as the needs of the profession fluctuated. A shortage of qualified technologists created the need for additional pathways into the field and a shortage of accredited programs created the need for alternative education. ABRET responded by providing multiple pathways for technologists wanting or needing to take boards. Opening up eligibility for candidates did not mean relaxing standards. Candidates are required to document experience and cases, and connect with a professional organization to earn some educational credits.

ASET – The Neurodiagnostic Society Board of Trustees, Program Accreditation Committee Members, and ABRET Credentialing Board of Directors have all enjoyed a collegiality that is not often found among professional organizations. While all function independently and have different missions and goals (see Mission Statements sidebar), be assured all are focused on supporting and bettering the profession of Neurodiagnostics.
After discussions, evaluations and reviewing statistics, four eligibility Pathways were developed for the new EEG examination process beginning in 2013, at which time the oral EEG examination will be discontinued for those beginning the credentialing process.

Pathway I – CAAHEP Program Students/Graduates have the most direct route to the credentialing process.

Pathway II – Formal END Education Graduates have completed a recognized program that has been in existence for at least one year. This will provide a route for persons having NDT-specific education and will also cover students in programs in the process of CAAHEP accreditation. This pathway will no longer be an option after 2017 as all formal programs are encouraged to seek accreditation.

Pathway III – Employed in the field with at least an associate’s degree or with a RPSGT credential. This encourages education and recognizes experience in a related field, but requires clinical EEG experience as part of the eligibility.

Pathway IV – Creates a pathway for technologists working in the field with at least two years of clinical EEG experience. This pathway will only be available through 2017 and requires that candidates have been in the field as of 2015. This will move us toward the goal of accredited education and higher education.

To summarize, let’s shift back to Bettering Your Professional Self. Here are some statements to consider as you reflect on yourself and your career.

Education is never a waste and can set you apart. Establish competency by earning at least one credential. If you consider yourself a professional, focus on continued professional development. Set goals to become more marketable and relevant.

References
Sudden Unexplained Death in Epilepsy (SUDEP)
By Sherry Nehamkin, R. EEG/EP T., CNIM, CLTM, FASET

Sudden unexplained death in epilepsy (SUDEP), as defined by Dr. Nashef in 1997, is: “Sudden, unexpected, witnessed or unwitnessed, nontraumatic and nondrowning death in patients with epilepsy, with or without evidence for a seizure and excluding documented status epilepticus, in which postmortem examination does not reveal a toxicologic or anatomic cause for death.”

An article that appeared in the Lancet in 1868, written by Dr. Bacon, Medical Superintendent of the Cambridge County Asylum, already categorized deaths due to epilepsy as arising from either “sudden deaths in a fit”, or “deaths after a rapid succession of fits”, or “deaths from accidents”.

The unexplained death of individuals with epilepsy, as described in the late 1800s, with most victims having been found in bed lying on their stomachs, was attributed to asphyxiation. That theory has held true until more recent research has shown that smothering is extremely rare in people with epilepsy, and therefore is no longer believed to be the usual cause of death from SUDEP. Currently researchers are looking at mixed causes including autonomic dysfunction, cardiac arrhythmia, respiratory problems causing apneas, and prolonged brain dysfunction.

Why the interest now? As presented by Dale C. Hesdorffer, PhD, Department of Epidemiology, Columbia University, PAME June 2012 at PAME, (Partners Against Mortality in Epilepsy, Chicago, June 2012), even with all of our advances in the treatment of epilepsy, including new antiepileptics and surgical intervention, sudden death is 20 times more common in individuals with epilepsy than in the general population. Overall mortality in epilepsy is 1.6 to 3.0 fold greater in people with epilepsy than expected in the general population. That translates to 10 years of life lost for epilepsy with known etiology and 2 years of life for epilepsy of unknown etiology. If everyone in the population had epilepsy, SUDEP could be one of the leading causes of early death.

Predictors of all deaths that are epilepsy related including SUDEP include
1. epilepsy of greater than 5 years without remission,
2. remote symptomatic etiology, and
3. history of status epilepticus.

How can we prevent SUDEP? Control epilepsy. Until we can accomplish that, we need to keep our patient population safe, not just in the setting of a monitoring unit, but at home. Educating patients and their caregivers to the importance of taking medications as prescribed, following any dietary restrictions, the importance of sleep, avoiding alcohol, understanding that over the counter medications must be discussed with their physician, because even herbal supplements may interfere with medication metabolism, is a good
beginning. Looking into safety devices for home use, including cardiac monitors and intercoms is another area to investigate.

Education and research count! There are many ongoing studies to determine which patients, especially from the most high risk groups, are most likely to become victims of SUDEP.

Quality of life and patient safety are of major importance to me, and have kept me in this amazing and ever evolving area of medicine. Protecting our patient population from SUDEP certainly falls under both headings. If you are interested in being involved in education and research projects directly related to SUDEP let’s share our resources.

Email me at sherrynehamkin@sbcglobal.net and please put SUDEP in the subject line of your email.

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**INTEREST SECTIONS**

**Welcome from the Interest Section Coordinator**

*By Margaret Hawkins, R. EEG/EP T., CNIM*

A few years ago I attended a very interesting seminar at my workplace. It was titled, “If Disney Ran Your Hospital.” The keynote speaker set the tone by asking the question “What do you think Disney’s main concern is in regards to its theme parks?” The audience answered with such things as happy satisfied customers, making sure people returned in the future, making lots of money, moving people through lines efficiently, making the visit a fun and memorable experience, etc. He informed us we were all wrong. “Disney’s #1 concern is that people who come to its parks are safe!!” He followed up with the statement “And that should be your #1 concern too!” I was struck by this “simple” declaration, but by the end of the day I could see why he had made it. I have asked our Special Interest writers to address this very important issue—*Safety in the Neurodiagnostic World*. As usual, they have taken on this topic and approached it in a variety of ways; you will learn valuable information from their articles.

We introduce a new Interest Section with this issue and two new writers, Petra and Keith Davidson, a dynamic husband-wife team, will be the Co-Leaders of the Clinical EEG Interest Section. I had the privilege of meeting them in St. Paul at the ASET meeting and I am very much looking forward to their participation.
Acute/Critical Care Neurodiagnostics  
By Sara Batson, R. EEG/EP T., CNIM, CLTM, RPSGT

Hello Everyone. It was nice to see everyone at ASET in St Paul. Our theme for this newsletter is Safety. Where do I start? Safety is a huge concern no matter what area of Neurodiagnostics you work in. In regards to safety with ICU monitoring it is important because the patients are at high risk for subclinical status. Many times technologists are called in to perform stat EEGs in ICU that turn into continuous EEGs (cEEGs). At our facility especially on Mondays or after a holiday, routine ICU orders can turn into cEEGs once the technologist has the EEG running and witnesses epileptiform activity. The technologists here notify the reading neurologist immediately to take a look which often leads to the neurologist requesting the EEG to be left running continuously until further notice which means the electrodes will have to be glued on.

With all the cEEGs performed it is important to keep in mind safety issues regarding these patients. It is important to communicate with the ICU RN attending to that patient. It is a good idea to ask the RN where to place the EEG portable machine, explaining the EEG will be running continuously. It is always best to make sure the EEG equipment is not in the way of the IV poles, ventilators, and any other equipment that may be connected to the patient requiring a healthcare professional to perform routine checks. It is hard for other healthcare team members to adjust settings on any machines if they have to maneuver around the EEG equipment at the bedside.

Another safety issue is the EEG cords. Making sure the power cord and amplifier to headbox cord is not placed in an area that would cause a family member or caregiver to trip over or get tangled up with when trying to approach the bedside. Some technologists use various methods to bundle the EEG leads/wires so they are not loosely hanging. If the leads are not bundled it increases the chance that they may be pulled off the patient’s head, which if secured with collodion, may very well cause sores and could be at risk for infection if the patient is incapacitated for a long period of time. The patient’s hair cannot be washed thoroughly after the cEEG is completed. Not to mention there are times when a cEEG is stopped and restarted for other testing such as MRI and CT. Or the cEEG is stopped and then reordered a day or more later and the patient still has not been able to have his/her hair washed.

As I have mentioned in previous newsletters, we have techs remotely watching cEEGs at bedside in the ICU. This eliminates the safety concern of repeated seizures, or status epilepticus. It is important for the neurologist to be notified in these cases to administer antiepileptic medications as soon as possible. This prevents the abnormal activity on the EEG from not being noticed and the patient from going untreated for any length of time.

I hope some of these helpful safety tips can assist you when performing cEEG monitoring in the ICU at your facility.

Ambulatory Monitoring  
By Jennifer Carlile, R. EEG T.

Our assignment is to know how you ensure that the Ambulatory EEG equipment is safe in the hands of patients who take it home with them. As with any type of in-home diagnostic testing, nothing is ever fool proof or 100% guaranteed safe, once it walks out the doors with a patient. Where the difference is made is giving thorough instructions on how to use the equipment properly. Every patient, patient family member, or caregiver needs to have thorough instructions on how to use the equipment and how it is best used in day to day situations. As a technologist, to have the best experience I found it extremely helpful by wearing the equipment myself, as if I was a patient. After wearing it for three days, I had an appreciation to what the patient must go
through while wearing this type of monitoring device and what to expect during the three days of testing.

After setting up each patient with their equipment, I go through a detailed explanation from battery changing, washing of the face, best way to sleep, and all the dos and don’ts while being monitored. Without making the patients feel mentally inadequate, I make things as easy as possible, letting them do a practice run with changing the batteries and providing them with written instructions. Going over each instruction step by step not only helps the patient feel more comfortable with the tasks over the next few days, but it also reassures the technologist that they have done everything possible to make sure the test is going to be a success. Obviously every patient is uniquely different. The age of the patient and the mind set of each patient and their caregivers also need to be considered.

With the pediatric population, I find that prior to even hooking up the patient, while the child is playing or watching a DVD, sitting with the parents and discussing some of what to expect really helps everyone feel more comfortable with the surroundings, as well as gives the technologist an opportunity to get a detailed history and discuss instructions in a more controlled environment. The little details of how to keep electrodes in place, how to keep wires away from little one’s hands, how to make sure the video quality will be best seen for the physician, how to ensure the patient will not get tangled up while they are sleeping, and all the way through contact numbers in case the parent or caregiver has any questions. All of these topics can be covered even before measuring the patient’s head. Most important, instructing the parent or caregiver not to allow the child to be alone at anytime with the equipment also helps ensure a successful test. Explain to the parent to redirect the child if they notice them touching their heads and running any wires that go from the top of the head down to the recording device underneath the patient’s clothes also help prevent little hands from pulling on any wires. Even making it a game for the little ones to stay in view of the camera, so that, “they are the TV star”…little things like this make for a more successful test.

If the patient is instructed to disconnect at home, going over instructions how to accomplish this is just as important as what to do while they are wearing the equipment. Also make sure the patient is fully aware how valuable the equipment is to the medical provider and that it is scheduled for use on another patient upon the completion of their study. And most importantly, that the patient agrees to return the equipment on a designated date and time, which is provided for them at the time of initial set up. Having the patient or caregiver sign and date a “contract” or document stating they understand these issues, will help ensure the safe return of the equipment or at least give the owner of the equipment peace of mind if any legal action would need to be taken in the event the equipment is not safely returned.

Clinical EEG
By Petra Davidson, R. EEG/EP T., BS and Keith Davidson, R. EP T., BA

Welcome to the Clinical EEG Section
Keith and I came into the field of neurodiagnostics in the same manner. We both have held similar jobs our entire lives, without knowing each other. We have both worked fast food, in a library, in video stores, and both intended to go to medical school. Unknowingly, we ended up crossing paths after deciding that medical school was not for us. Keith entered the field of polysomnography in 1998 after graduating with his Bachelor’s degree in Biology and wondering what to do with it. He found St. John’s Hospital in Springfield, Missouri. One year later, I graduated and not knowing what to do with my Bachelor’s degree in Biology, I applied at St. John’s Hospital for an EEG technologist position.

Three months following my first day of training (reading Niedermeyer cover to cover for an entire day), I began working side by side with Keith performing inpatient EEG studies. Now, after 13 years of working together, and 10 years of marriage, we are still in the field.
We both thrive on educating nurses, physicians, and aides on how EEGs work. We love listening to our physicians when they are interpreting studies to learn more about the clinical interpretation of EEGs.

We now work at Mayo Clinic Health System in Mankato, Minnesota as part of a three tech lab, taking call once every three weeks, and assisting nurses, doctors, and other specialists as needed. It is an amazing place to be. Keith performs autonomic studies, evoked potentials, and EEGs in the ICU, inpatient hospital and outpatient lab. I perform EEGs, evoked potentials, newborn hearing screens, and vestibular function testing.

Safety in our lab has always been our primary concern. In the decade that we have performed testing together, we have seen great things occur because patients were safe and detrimental things occur when even the slightest bit of oversight occurred.

There are so many safety issues in the “routine” or clinical EEG lab. We begin with the easily overlooked areas of restrooms. Keith recalls walking a patient to the restroom prior to the test, as is our typical process. Patient enters the restroom, locks the door and Keith waits in the hallway. And then we heard it, a guttural noise then a thud, typical of a patient having a generalized tonic clonic seizure. The bathroom key had been misplaced and it took several minutes for security to arrive with a master key. By the time we were able to get into the bathroom the patient was post-ictal and combative, he was swinging at everybody that got near him. Luckily, the patient did not injure himself that day.

Now instead of an everyday walk with a patient to an outpatient testing room, we have a situation which is unsafe for the patient and staff. This is a perfect example of an unsafe situation that in some ways was unpreventable (we can’t go to the bathroom with our patients) and at the same time could have had a much better response to ensure the patient was safe (knowing where the bathroom key was).

In the world of clinical EEG we must remember that at any time that “routine” EEG may become something much different than the routine. We have to remain ever mindful of the potential safety hazards in our area, whether that is the average trip to the restroom with your patient, or the cables from our portable machine tripping someone, and do everything we can to avoid hazards.

Clinical EEG encompasses routine outpatient and inpatient EEG. These are typically performed for evaluation of spells, follow up of known epilepsy, continuation of treatment when patients establish new care, evaluation of behavioral outbursts for mental health patients, amongst other reasons. These procedures include activation of spells using hyperventilation, photic stimulation, mental activation, sleep, and other activities as ordered, such as smoking a cigarette, yoga, or even rectal examination by the physician. Yes, we have been asked to do some odd things but all in the name of bringing on the patient’s typical events. We do restrict our activation procedures to things that are reported to bring on the patient’s events by the patient or caregiver.

The field of EEG is still relatively young. Our most recent ASET conference highlighted so many of the things we do not yet know for certain about the EEG. As technologists, we must frequently converse about routine EEG to educate one another about the rare epilepsies, unusual precipitating factors for seizures, and other clinical topics.

The goal of this interest section is to provide insight into the world of clinical EEG and for Keith and me to gain insight from our readers on their experience and knowledge. We welcome all questions and answers from the readers to educate ourselves and others about current clinical EEG topics.

In the upcoming year, we hope to educate everyone on how dialysis affects clinical EEG as well; yet another, interesting topic.
**CPT® Coding**

*By Lynn Bragg, R. EEG/EP T.*

It seems lately it is harder to code and be reimbursed for procedures than actually performing the procedure. With so many recent and pending changes with insurance provider and reimbursements, if all our “I”s aren’t dotted or “T”s crossed, we will spend forever getting reimbursed.

It is a common practice in my lab that all patients are precerted (precertified) prior to their appointments. Our office accepts so many different types of insurance it would be almost impossible for anyone to remember each provider’s reimbursement policy. This helps in case there are certain criteria a patient must meet required by an insurance provider. The patients at the time of scheduling their appointments are told that they need to call their insurance provider and check on reimbursement for their specific plan.

In the past, often times a patient would come in for an EEG and have an appointment set up to see their doctor directly after for test results. Both would be reimbursed at the normal fee. Now if a patient is scheduled this way, the office visit charge to see the physician has to be a reduced charge. If the patient comes in the next day, the office visit can be billed at the normal office charge. An exception to this would be if a patient was here for an EEG and the study was very abnormal and the technologist would have the physician see the patient after. This situation is viewed as a “stat” type of visit not prearranged. The billing for this may or may not be reimbursed at the normal fee rate.

Indications for the procedure should be the guideline used when coding testing. If a patient comes in with staring spells and has an EEG ordered, the EEG should be billed with staring spells, not absence seizures. If you used absence seizure as an indication for the study and the EEG is normal, the patient would be labeled with a diagnosis of seizures by the insurance provider and not have seizures. Symptoms are not as binding to the patient. If a patient comes in with a predetermined diagnosis of seizures then using seizures is acceptable.

“How rule out”, “suspicious of”, etc., are not acceptable indications for a study. It is always best to use a symptom. For EEG techs it is relatively easy for this since we need to get a patient history for the study.

Bottom line is when documenting the indication for the study keep in mind if that indication is a symptom or diagnosis.

**Department Managers**

*By Stephanie Jordan, R. EEG/EP T., CNIM, CLTM*

**How Safe Should a Visit to the Hospital or EEG Lab Be?**

Summertime: the time for travel. I was dropping my daughter off at the airport and suddenly, I was hit by a bus-load of worries: did she have enough money; did she remember her ID; did she pack everything she needed; would she find her way on time? Then I realized there was one thing I was not worried about: her safety on the airplane. Not for one minute did I think about the plane crashing or malfunctioning or not getting her to her destination. I was 100% certain that she would be “safe” on the plane. This is the type of safety we must strive for in Healthcare. Most hospitals have come on board and focused on patient safety due to strict new laws and regulations regarding patient safety and reimbursement and therefore have been initiating a culture of safety. Therefore, I ask myself: what can I do as an individual to help achieve this high level of safety for our patients?

**Prevent Infections:** You can literally save a life by following hand hygiene 100% of the time. Using the “gel in and gel out” slogan every time you walk into a room is a great reminder.
Stop a few seconds before entering a patient room to look for any isolation signs, and follow the precautions posted. Keep your equipment sanitized/disinfected in between every procedure.

Prevent Falls: Keep an eye out for floor clutter, and pick it up when you see it. Don’t assume housekeeping will be there soon to pick trash that has fallen to the floor and that picking up trash isn’t in your job description! You can prevent a fall, and in the elderly, falls are the leading cause of serious injury leading to death. Keep patient beds lowered and rails up for safety. Meet the patient’s needs before you leave (many patients fall reaching for something that you could have placed nearby them or fall trying to get to the restroom).

If You See It, Say It: If something looks wrong or sounds wrong to you, it probably is! Do not be afraid to speak up about something you notice even if it does not concern your scope of service; the patient is every employee’s scope of service. Your grandmother was right: a stitch in time saves nine.

Communication: Clear communications with repeat backs and phonetic and numeric clarification have prevented many safety errors from occurring. If you are not sure about what was said to you, ask for clarification before moving on.

Slow Down: As a supervisor, I am always in a hurry, always behind in overdue projects, going to a meeting that started 5 minutes ago, with pager blaring, staff needing immediate assistance, etc. I was rushing down the neuro/ortho medical inpatient hallway one morning when I heard a feeble voice calling out for help. My mind did the calculations without conscious thought. “Oh, let the nurse take care of that” and “if you stop you will be late for the meeting” and “on the neuro floor the patient is probably just confused, demented, or encephalopathic.” I could come up with many more reasons not to stop my busy day but instead my feet slowed down and I took a closer look. Oh the dreaded isolation cart and precautions sign on the door and no other staff in sight! Maybe I should move on; this would take a lot of time. But then my conscience took over, and I stopped, gelled, gloved, gowned, and masked, and I entered the room. A petite elderly woman who was post-op orthopedic spine surgery was reaching over the bedrails. I asked her how I could help her, and she said, “My call light has fallen on the floor.” I retrieved her call light and put it close to her reach. I asked her if there was anything else I could do for her before I left, and much to my chagrin, she asked me to clean up her room a bit. I thought that was hilarious and began throwing out some trash for her and tidied up her patient tray/table. I asked her if there was anything else she needed, and she asked me for some pain medication. Oh great, now I have to find her nurse; I was really going to be late for the meeting now! I told her I could not get her the pain medication, but I would ask her nurse. I went down the hall to the nursing station, found her nurse who said she could give the patient some pain medication and would be there shortly. I walked back to the patient’s room and reported this from the doorway. The patient thanked me and I started down the hall again. The whole episode took only a few minutes, but as I walked down the hall I wondered if that patient might have fallen trying to get her call light.

By Pat Lordeon, R. EEG T.

As a department manager, the overall responsibility for safety in my area rests with me. This includes patient safety, family safety, and employee safety. Although I don’t individually police the area (giving citations for infractions and imposing fines at the drop of a hat!), I do try to gently encourage folks to err on the side of safety. A large part of that involves identifying areas of concern, and that is very dependent upon input from my staff. You can’t fix what you don’t know about.

One of our Epilepsy Monitoring Unit (EMU) nurses recently won a prestigious hospital based safety award as a result of being a true patient advocate. She felt strongly that her patient needed to remain in the EMU, where he could receive treatment for his seizures and continue to be watched very closely by our skilled and specially trained RNs and techs. Orders had been written to transfer the patient to a medical unit, but our nurse successfully argued her point with
the Neurology attending. This resulted in the patient staying in the EMU, where he continued to be cared for and monitored by the EMU nurses and techs. Ultimately this was felt to have been the correct decision for the patient, and our nurse was the prime reason for the change of plans. When your staff feels empowered to stand up for themselves and their patients, only good things will result.

Another recent development occurred in the EEG lab. Our lab, like most other EEG labs, sees both inpatients and outpatients. One of the areas we have historically been concerned about is not having any physician or nursing coverage for the EEG department in the event of an emergency. This is not too much of an issue for inpatients, as they are always linked to a doctor and nurse from their home units. However, an outpatient who has a significant event during an EEG and requires treatment and/or evaluation must be seen in the Emergency Department (ED).

In the event this occurs, the EEG staff has always called the hospital transport service. The transporter, who has no medical background, will bring a stretcher and take the patient and family to the ED. This was not felt to be the best solution; the EEG staff felt strongly that the patient should be accompanied by an RN. Several phone calls and discussions later, a new process was developed that utilizes the hospital helicopter flight nurses to accompany these patients to the ED. The flight RNs will provide a portable vitals monitor, portable oxygen and their own (not insignificant) skills to ensure a safe transport for the patient to the ED. And how did this amazing process come to be? Because the EEG staff recognized a potential safety issue and felt empowered to advance it up to management.

When a Neurodiagnostic staff thinks about safety, the first things that come to mind are typically EEG related: using proper grounding techniques; ensuring the patient on a stretcher wears a safety belt; or educating staff on proper seizure response should a patient have a seizure in the lab. But safety issues in the Neurodiagnostic workplace are becoming more ubiquitous and are sometimes not immediately obvious. Managers should encourage their staff to examine the way things are done in the department. The single most important question to ask is “Why? Why do we do things this way and not that way? Why don’t we do this instead of that?” If you don’t have a good answer; or your answer is “because we’ve always done it this way”, maybe it’s time to rethink the process. After all, everything else in life changes….safety concerns should evolve and change as well!

**Epilepsy Monitoring**  
*By Susan Agostini, R. EEG/EP T., CLTM*

**Safety in the Neurodiagnostic World**

Neurodiagnostic technologists have been dealing with the topic of safety since the existence of the field. When working with electrical signals that are generated by neuronal networks captured by tiny electrodes, and an entire amplifier system, it is imperative to have full understanding of electrical safety. From the maximum leakage current allowed in the system, grounding the patient safely avoiding ground loops, to resistance and electrode impedance are all essential concepts that we as professionals in the field deal with on a daily basis; however, safety in Neurodiagnostics encompasses so much more. In the Epilepsy Monitoring Unit (EMU) specifically, collodion, falls, seizures, postictal phases, and cardiac arrhythmias are safety concerns that need to be addressed with each and every one of our admissions. Processes have to be in place in order to promote a safe environment not only for patients but for staff as well.

In the EMU, temporal 10–10 chains of electrodes are added to the conventional International 10–20 System of electrode placement. Every effort is made to capture patients’ typical events, thus safety is the word of the day, every day! During Phase I EMU investigations, non-invasive electrodes are glued to the scalp with collodion. This glue is stored in a flammable substances cabinet. Material safety data sheets (MSDS) need to be available in the unit, and most
importantly, an eye wash station should be readily available in the unit in case this irritating substance falls in the tech’s or the patient’s eyes. Acetone and collodion remover are also substances that need to be stored and handled with the same caution. Electrode sites should be inspected daily for signs of skin breakdown and a log should be maintained. Staff is expected to pay attention to patients’ complaints regarding any pain, or itching on the electrode sites. Monitoring techs are a great resource as they are constantly monitoring the patients and can communicate any signs of patient discomfort to the rest of the EMU team.

During admissions to the unit, anti-seizure medications are manipulated and activation procedures are performed daily in order to elicit the patient’s typical events. Understanding the patient’s typical events is essential when gathering patients’ history as this piece of information is helpful for staff to establish and maintain a safe environment for the patient and for themselves. Seizure helmets in various head sizes with chin guards, and face shields are available for patients with history of “drop” seizures when assisting them to the bathroom. Curtains replacing bathroom doors allow staff to rapidly assist patients when events take place inside the bathroom. There should always be a staff member waiting in front of the bathroom assessing the patient every minute, and listening to any unusual sounds in the bathroom to ensure that the patient is doing fine.-commodes, urinals, walkers, stand aids, floor mats, and sliding boards are available as resources for the EMU team to use.

A voluntary locked safety lap belt is used when patients are in bed or in the recliners. The four side rails in bed should be padded and up at all times. Beds should always be in the lowest position. The room should remain uncluttered. There are two patient event buttons available in the patient’s rooms; one in the patient’s headbox pouch, and the other at family members’ reach. There are many times when a patient’s tonic/clonic seizure is very intense, or during a complex partial seizure the patient has tried to get out of bed and the soft safety lap belt has been the only feature that has kept them safe. Patients with nonepileptic behavioral changes, or postictal psychosis and agitation that can lead to self-harm or harm to the staff, have also benefited from this belt. The Security department is also available for situations that require their assistance. A panic button is in place in the EMU control for rapid response.

Rooms should also be prepared with all the necessary medical equipment to assist patients during their seizures. This includes oxygen, suctioning, portable vital signs systems, extension tubing, etc. These measures allow for a safe environment when responding to patients’ seizures/events.

Continuous cardiac monitoring simultaneous with the video EEG recording is imperative in order to capture any cardiac arrhythmias. Bradycardia, tachycardia, and asystole have been known to happen in some cases during a seizure. Code carts, as well as a process for code responses, and rapid access to the unit need to be in place. EMU staff competencies include an EKG course, and knowledge of the cardiac telemetry system/alarms.

During Phase II EMU investigations, there is another set of safety measures that takes place as well. Invasive electrodes (subdural strips and grids; depth electrodes) are used and patients are at risk for infections and swelling. There is also a possibility that the patient could pull their electrodes out during a seizure. There are strict safety measures in place for this type of invasive investigations. These patients remain in Neuro ICU for the first 24 to 48 hours for safety reasons and are monitored remotely.

All these processes are very important in order to maintain a safe environment in the EMU; however, fostering a culture of safety is paramount! Safety is our primary obligation and should be shared by all. In order to create this culture there has to be key elements in place. A culture of safety occurs when the EMU team commits to it, and feels free to identify threats to patient safety. Errors are examined with a “no blame” attitude. Staff vigilance and mindfulness are a must. Thinking about what could possibly go wrong every time we are in the unit and working with our patients, could potentially change the outcome in a given situation. We all hold a piece of this giant safety puzzle!
By Cheryl Plummer, R. EEG T., CLTM, BS

Safety concerns in the Epilepsy Monitoring Unit (EMU) are paramount. The safety of patients during long-term monitoring are a combination of efforts put forth by technologists, nursing staff, physicians, and patients/families. Without the combined efforts of these four entities, positive safety outcomes will not be achieved.

There should be set standards for safety followed for each patient in the EMU such as: seizure padding for the bed side rails, padded floor mats, the patient should be accompanied to and from the bathroom or anytime he/she is up out of bed and ambulating, bed alarms for patients who get out of bed with their seizures, safety vests when appropriate, padded mittens for patients with intracranial electrodes, EKG telemetry, and constant patient observation. The standard safety precautions should be observed for each patient, and in addition, each patient should have their history evaluated for specific characteristics of their events to evaluate if specific safety measures should be put into place.

In the EMU where I am employed, we admit only adults in our unit. We do often have some difficulty convincing patients to be compliant with some of our restrictions, but as difficult as it may be, we have to keep reminding them that they must, for instance, call for assistance when walking to the bathroom, etc. Bed alarms are very helpful in this situation and are also very helpful in patients who quickly get out of bed with a seizure. We also spend a lot of time convincing patients that the seizure pads must be used at all times. The pads get in the way of them using their bed controls, visualizing their visitors, etc. Again, it is important to check these throughout the day to make sure they are on securely. I have heard too many times from patients that “I don’t have company walking to the bathroom at home, or I don’t have a padded bed at home…”, and although this is true, it is our job to make the patients understand that it is policy in the hospital and we must follow it. Most people will comply if the reasons are explained.

It is important that the technologists and nursing staff work as a team to keep the patient safe and to provide them with the best possible outcome from their admission to the EMU. Communication and cooperation are key to patient safety.

Wishing all of you an enjoyable fall season (no pun intended).

Intraoperative Neuromonitoring
By Justin Silverstein, R. EP T., CNIM, R.NCS.T., CNCT, MS

Safety in IONM

Introduction: The inherent philosophy behind IONM is patient safety. The ability to prevent iatrogenic neurologic injury is the cornerstone of our field. However, safety for an IONM professional presents itself in many ways and is not just relegated to the patient.

Where does safety begin? In our practice, we feel safety begins with the quality and continuity of the care we give. This begins with our policy and procedure manual that states very clearly our mission and goals. Our policy and procedure manual has a detailed review of what is expected of our clinicians from proper documentation techniques to how to properly conduct a patient interview. There are policies regarding needlesticks, cleaning and maintenance of the equipment, and having our equipment checked for current leakage by biomedical engineering. As this article is not about our policy and procedure’s manual, I will not give an in-depth view of ours but will say that it forms the foundation of safety prior to our clinicians entering a hospital.

Relevant History as a Safety Tool: Safety is multi-faceted and patient safety does not just occur within the operating room (OR). For example, informed consent is a powerful safety tool, as it gives the patient an understanding of what our role is, as well as allows us to gain pertinent history from the patient so we are able to adjust our monitoring appropriately from patient to
patient. We meet our patients in the Ambulatory Surgical Unit (ASU), their hospital room, or in the OR holding area where they sign our consent forms. At the same time we obtain a relevant history that allows us to properly assess the patient and determine what modalities will or will not work for that specific case. A few months ago, during one of these bedside chats with a patient undergoing an L4, L5, and S1 posterior spinal fusion, I learned from my patient that he was a recent veteran who had his leg severely damaged during the war. He explained that in the anterior compartment of his leg, the muscles and skin had to be replaced and the muscle was not his own but artificial. I examined the leg and realized that I could not do EMG of the tibialis anterior muscle because this is exactly where the reconstruction had been done. I decided to use the peroneus longus muscle as an alternative muscle and it worked out great for the case. Because I had this initial talk with the patient I was able to modify my approach before he ever entered the OR. This allowed me to adequately monitor his L4 and L5 nerve roots, therefore ensuring his safety was not compromised due to his presenting condition.

**Needle Electrodes:** Needlesticks are unfortunately an occupational hazard for many who work in health care. Since we use needle electrodes in the operating room, we are always cognizant of where they are and we make sure everyone we work with is aware of them as well. We tell the nurses and anesthesiologists the number of needles we are using and where they are being placed. If another OR team member gets close to our needles during the prepping or positioning of the patient, we alert them of their proximity to the needles. (This can be an anesthesiologist adjusting the patient’s head or a nurse moving the patient’s leg). We are also tape “crazy”, meaning we make sure all our electrodes are secure with enough tape that they do not come out (Figure 1). We also use stress-taping techniques to reduce the incidences of needles coming loose when the patient is moved (Figure 2). If the tape comes loose, it will loosen the stress loop of the electrode wire first and not actually pull on the needle portion of the electrode (Figure 2). To reduce the risk of infection to a patient, we always clean the needle insertion areas with alcohol, as well as make sure the needles we use are sterile (Figures 3A and 3B). Our practice has a checks and balance system to ensure we are not using expired electrodes. This includes doing a monthly inventory to determine the sterility of the electrodes, using oldest to newest. If we find they are nearing expiration and have not expired we will use them immediately. If we are using hospital purchased electrodes we also check the sterile date to make sure we aren’t using bad electrodes. If we place a needle electrode and it becomes dislodged, we will immediately discard it and place a new clean sterile needle electrode in its place. This is another safeguard we use to limit the risk of infection to our patient population. At the end of surgery, we do not let anyone help us take our needles out. The reason for this is to ensure we have taken all the needles out of the patient, as well as to limit the risk of a needlestick to someone else in the OR. We remove all the tape we have placed on the patient and clean the area appropriately. If there is any excessive bleeding we will place an adhesive bandage over the affected area, so the patient is not bloody when they go to the recovery room. This is safety for those who will be caring for the patient after we are long gone from the hospital.
FIG. 1. Taping of EMG needle electrodes.

FIG. 2. A. Stress loop. B. Tension on the electrode wire. C. The stress loop has come undone but the electrodes stay in place.
FIG. 3A. Alcohol swabs used to clean the patient prior to placement of electrodes.

FIG. 3B. Circle indicates the sterility date of the IONM electrodes.
**Positional Issues:** Iatrogenic injury that results in neurological sequelae and occurs outside the surgical site is paramount to patient safety and if not monitored can result in quality of life issues for the patient and liability problems for the provider. A recent court case awarded a plaintiff $1.45 million after he woke up from an orthopedic surgery with permanent nerve damage caused by positioning (Cook 2012). The co-morbidity of a positional issue can have devastating effects for the patient as they are going to be in the same position for a number of hours. For upper extremity positional issues, we will monitor the SSEPs for median and ulnar nerves. This not only allows us to effectively monitor the patient’s upper extremities, it allows us to pinpoint where the positional issue is occurring and notify the anesthesiologist to fix the problem expeditiously, therefore allowing the monitoring focus to return to the surgical site. For example, if we lose the ulnar SEP from one extremity and not the median SEP from the same extremity, then we have a good indication that the problem is most likely not occurring in the brachial plexus and can focus on the portion of the arm distal to the brachial plexus (there are exceptions to this rule, but I will not cover that here). If we lose both the median and ulnar SSEPs we can assume that the issue is ischemic in nature, occurring at the brachial plexus or neck. For lower extremity positional issues, we run peroneal SSEPs on every case. We run posterior tibial nerve SSEPs as well and use them as our control in the case the peroneal SSEPs are lost and/or lateralized. There have been a number of patients not under our service that were waking up with peroneal palsies in the hospitals I work in. The surgeons felt this was due to the position of the legs and the safety belt being too tight causing compression of the fibular neck. Though we have not had a positional injury occur while running peroneal SSEPs, our surgeons appreciate the extra steps we take to ensure patient safety (Figure 4).

**FIG. 4.** SSEP waveform windows from top left to bottom right: left ulnar nerve; right ulnar nerve; left median nerve; right median nerve; left posterior tibial nerve; right posterior tibial nerve; left peroneal nerve; right peroneal nerve.
**Equipment Set Up:** We feel that the laying of our wires in the operating room can be hazardous and to circumvent any safety issues that could arise by someone tripping over our wires, we cover them with an adhesive wire cover that adds traction but does not destroy the OR floors the way tape might (Figure 5). We also guard the equipment we place on the OR table from liquid which can cause a short and a subsequent fire. We do this by keeping our acquisition and stimulating boxes away from any area that might get wet. If one of our boxes has to be near a possible “wet” area, such as the head of the bed (anesthesia drugs, bodily fluid, etc.) we will cover our equipment with 10/10 drapes to avoid any liquid contaminating our equipment (Figures 6A, 6B, and 6C).

**FIG. 5.** Covering the wires from the IONM equipment to the OR bed.
FIG. 6A. 10/10 drape covering the stimulator box.

FIG. 6B. Propofol spill at the head of the bed.
Working with the Anesthesia Team and Nursing Team: It is well documented in the literature that elicitation of TCeMEPs can cause clenching of the jaw and subsequent tongue laceration if precautions are not taken to circumvent this. To prevent this from occurring, when we do TCeMEPs we will always remind the anesthesiologist to place a soft bite block in the patient’s mouth. What is nice is that our equipment also gives us a default message when we try to stimulate the first MEP of the case. This default message asks us to make sure there is a bite block placed and will not elicit the stimulus unless we acknowledge that the bite block has been placed. Another way we ensure safety to the patient while working with the OR team is to make sure the nursing staff puts cold saline on the field when we are doing direct cortical stimulation. This is in case our stimulus elicits a seizure and gives the surgeon the ability to stop the seizure with the saline.

Conclusion: As we know, IONM as a profession is built on the foundation of patient safety by being predictive and preventative to neurologic insult. I have tried to point out some of the more detail oriented tasks we do to create an environment of safety as a whole. These are little things we do every day that have a big impact on the safety of our patients, colleagues and associates.

“Does MEG have any safety issue for patients? Or for the system itself??”

As you may all know, magnetoencephalography (MEG) is a noninvasive and painless study to record brain activity and is similar to EEG. Since MEG just listens to the magnetic signals from the brain (I prefer not to call it an “MEG scan” since it is not scanning the brain during the recording, but for some kinds of analysis of the MEG signals do “scan” the brain) and, unlike MRI or any other CT scans, it does not pose any radiation, isotope injection, additional magnetic fields, loud noise or other risks to the patients or research participants. There are no known biological risks to the MEG test.

Does that mean that there is no risk for MEG? Since the MEG system is very sensitive to magnetic fields from electronic equipment, the recordings are done in a magnetic shielded room (MSR). To avoid any unknown or unforeseen risks with the study, an intercom and video monitor system are continuously on, and connect the subject and investigator who are outside the MSR in the control room. The subject can talk to the investigator at any time and the investigator can see what happens in the room at all times. The MSR has its own air ventilation system. In addition, we have an alarm system to check the temperature and air quality. The study will be stopped if anything unusual happens.

For clinical MEG studies, especially for presurgical evaluation for patients who have refractory epilepsy, additional cautions must be used during the MEG study. First, they have a “fall risk” because of the seizures. It somewhat depends on which MEG system you are using, how you position the patient, sitting or lying. For example, at Cincinnati Children’s Hospital Medical Center (CCHMC) we have a whole head CTF 275-Channel MEG system and position the patients supine on a bed to fall asleep. There is possibility that a patient may have a seizure during a recording. The type of seizure the patient has affects her/his potentially fall risk. For the CTF system, the bed position is a little on the high side, so we have non-magnetic side railings on either side of the bed. The patient’s safety always comes first! The technologist or physicians who are recording the data always keep an eye on the video monitor for any clinical sign of the patient moving or starting to have a seizure. We also keep a Velcro® restraining belt across the patient’s chest to limit fast movement and avoid an immediate fall from the bed. We also have a “rapid response procedure protocol” in case the patient has a seizure so that we move into the MSR quickly to the patient’s bedside. MSRs tend to be so small and narrow between the wall, bed/chair, and gantry (well, at least at CCHMC it is a tiny space!), so we have planned out who goes to each side of the bed.

Also, if you are using any sedation, especially for the pediatric populations, keep an eye on the patient not only through video monitors but also on the vital signs monitor. This is a hospital requirement for conscious sedation at most hospitals in the US, and a separate person, usually an RN, is required to monitor the patient’s vital signs.

When you have the patient under general anesthesia, of course, you have an anesthesiologist attending whole time, but the technologists also keep communicating with the anesthesiologist to check how the patient is doing. You also should track the “depth” of the anesthesia during the study, so that you can communicate with anesthesiologist to acquire the best quality data possible (too high doses of some anesthetics can interfere with recording quality). For some of you who utilize conscious sedation i.e., chloral hydrate, you also need to have good communication with nursing staff who is monitoring the patient’s vital signs.

So again, patient safety always comes first, along with recording good quality data for analysis. OK. In order to get high quality of the recordings, we ask the patients to have no metal at all on/in their body for the MEG recording (well, except for devices that cannot be removed, e.g., VNS, permanent dental work). What about magnetic metal from sources other than patients?
Yes, you also better ask all for your staff not to have metal objects on their clothing to protect “your expensive MEG system” as well.

**Nerve Conduction Studies**  
*By Dorothy J Gaiter, R. EEG T, R.NCST, CNCT, FASET, MHA*

Patient safety is a top priority across the board for healthcare facilities and a practice that permeates physician’s offices and outpatient clinics. It is a well-known topic in healthcare delivery today.

One major safety issue for hospitals is washing hands before entering and after leaving a patient’s room, which as one knows prevents the spread of germs. Other patient safety measures that employees must adhere to are: patient fall prevention, ensuring that patients are receiving the right procedure, medications, and so forth.

A crucial aspect in safety of patients is to do no harm and with NCS, some patients relate the word, “shock” with possible harm. For example, some patients ask, “Will it affect my heart?”

The ability of techs to answer questions patients may have about the safety of having the test, such as risks factors or discomforts, are concerns that techs must address candidly. An important safety factor for NCS is the assurance of having equipment and staff available to perform EKG monitoring on patients with pacemakers and defibrillators (ICDs), during a NCS procedure, if the patient decides to proceed with the exam.

That leads to the focus of this article: patient safety in training techs for nerve conduction studies in physician’s offices and outpatient clinics. Techs know and understand the significance of hand-washing before and after each patient. Even though there is not always the luxury of having a sink in each room, there is hand sanitizer, and taking precautionary measures by assisting weak patients to prevent them from falling. However, it is not so black and white when it comes to performing nerve conduction studies on patients with pacemakers and ICDs.

Pacemakers and ICDs are used more and more in clinical practices. Some healthcare professionals take the stance that in routine NCS there is no evidence of data to indicate that these devices are a safety hazard. Nevertheless, it is better to err on the side of caution. When techs are obtaining a patient’s history, the question of having these devices must be asked as well. Even though there is the quandary of it not being an issue.

Overall, it is essential that techs comprehend that the safety of patients in all aspects of healthcare from washing hands to being cautious in performing nerve conduction studies is a vital part of quality care. Safety of patients is a part of what excellent healthcare is all about, even when one agrees to disagree on matters such as the pacemaker and ICD. The bottom line is to do no harm. It is about accountability and the perspective that as healthcare professionals all are responsible for the safety of every patient; whether it is in a healthcare facility, a physician’s office, or an outpatient clinic.

**Neurodiagnostic Education**  
*By Mary Feltman, R. EEG T., MEd*

Students have a tendency to complain about the fact that each hospital may have different specific policies and procedures regarding safety. Students are required to abide with the policies of the specific clinical site. Life is a bowl of cherries, enjoy removing the pits.

Students are taught in the lab and lectured about safety and how to be pro-active with regards to eliminating potential problems. From day one, students are taught the importance of grounding a patient and having good impedance. This begins and ends with technique. We are all the same, yet different. Students learn that each tech may have a little different technique to applying electrodes. Seeing these different techniques can only potentially help them when
creating their own system of applying electrodes. The bottom line is that every tech strives to have a great hook-up with impedance of 3 to 5 kOhms on every test performed.

Another significant safety rule is bedrails. Always put up the bedrails. I constantly am telling the students that it does not make a difference the age or ability or disability of a patient. Always, always, always put up safety bedrails. This is a huge safety issue when being reviewed by The Joint Commission.

Lastly, identify your patient. Simply check the chart for the order and verify with the patient what his/her name is. When a patient cannot respond or is confused, check that wrist band. One can only imagine how much time is wasted when someone has hooked up the wrong patient. Unfortunately wrong patients have indeed been hooked up, simply because the tech did not verify the order in the chart and the patient’s name band. I would rather do only one hook-up, even if it is on a difficult patient, than hooking up the wrong patient and having to clean the wrong patient up and then finally hooking-up the correct patient.

The rule is …treating each patient as if they were your family member. This means good safety and infection control techniques, as well as, showing you care.

By Mark Ryland, R. EP T., RPSGT, R.NCS.T., CNCT, AuD

I have found that the notions of safety are either at the forefront of our minds or are the last thing we think about; it really depends on your frame of reference. In Neurodiagnostic education, we are often consumed by teaching and educating our students on the technical/procedural aspects of testing, and the scientific concepts (anatomy and physiology, instrumentation, etc.) that go into the procedures and modalities. The notions of safety, however, are just as if not more important to address. The most obvious safety topic covered in any Neurodiagnostic program is of course electrical safety, and infection control/disinfection of equipment, the latter of which has increased greatly in my program since bringing Nancy Scott on board. (Some of you may have attended her extremely informative and well presented talk on the subject of disinfection at the recent ASET Annual Conference). But these are only two areas out of many. After attending this year’s ASET Conference, we will be beefing up our coverage of Occupational Safety and Health Administration (OSHA) regulations that pertain to our workforce from both the student/technologist standpoint as well as the patient standpoint. Although concepts of neuroanatomy, filters, volume conduction and near/far field are way more fun to teach, we must not forget safety issues. “Hey Nancy you want to cover this lecture for me??”

Neurofeedback
By Bill Coslett, CNIM, BCIA, EEG-C, PhD

7 Steps to a Better You!!!

The theme of this newsletter is patient safety. This is always a relevant topic for discussion for those of us who are truly patient advocates. A perusal of the literature on patient safety reveals volumes of articles related to patient safety. I decided to place a little different spin on the topic and would like to explore “tech safety”. Many of these comments are commonsensical, but often times are overlooked. I am titling this article on “7 Steps to a Better You!!!”

1) You Snooze; You Win.
Get a good night sleep. Probably one of the most important steps in self care is getting the correct amount of sleep each night. Many of our cases are scheduled in the early morning hours. Leaving the house at 4:40 or 5:00 AM in not uncommon in our business. Knowing what your personal sleep requirements are is important if we are to perform optimally.

2) Become Nutritionally Gifted.
Make sure that your body is fueled properly. Breakfast fuels the body at the start of each day and is paramount if we are to reach peak performance. I know I am guilty of grabbing a cup of coffee and heading out the door. Don’t skip breakfast. Protein also fuels the body. Foods such as almonds are loaded with protein and can be placed in the staff lounge for between cases. Protein bars are also available to help fuel the body. Make sure to hydrate yourself for those “marathon cases.”

3) **“Oh My Aching Back”**

There are some hospitals where monitoring equipment has permanent residence, while other techs carry their equipment from case to case. Loading and unloading, moving and removing, packing and unpacking can have a detrimental effect on the body’s musculature. Learning good body mechanics can help. Maintaining good core strength is crucial in preventing low back strain. Focus on exercises to stretch and strengthen low back muscles. Personally, I like to get into the room well before start time in order to find a stool that is well cushioned to make for a comfortable case.

4) **“Watch Those Needles”**

Although I can use cup style electrodes, I most often will opt to use subdermal needle electrodes for their ease of use. Most of us recognize that there is a small window of opportunity to place and/or change electrodes during set up. Speed is essential as well as a quick set of hands. Being focused helps in preventing accidental needlesticks. Being more vigilant is more difficult at closing as thoughts turn to driving home or setting up for the next case. Staying focused, keeping a needle count can help prevent accidental sticking. As always, follow OR procedure for any accidental needlesticks.

5) **“Come on Man”**

I don’t know how many times this phrase comes to my mind during those longer cases. Some cases are inherently long in nature and some are just longer due to surgeon meticulousness. We all have had those cases lasting 5 to 8 hours. We put in long hours between driving and hospitals. Being tired and fatigued seems to go hand and hand with the drive home. Falling asleep at the wheel is a real danger. Be aware of the dangers of driving when sleepy. Pull over to a rest stop or other safe location until you feel refreshed enough to go on. Hydrate yourself with water. I personally take the Chinese herb “Kings Crown” which combats fatigue and increases focus. Some techs use energy drinks to help with drowsiness. I am not sure about these, although if it gets you home safely, than I am all for it. As my friends at the Florida Highway Patrol say, “You snooze, you lose.” Don’t drive drowsy!

6) **Exercise the Mind and Body**

Move it or lose it! This applies not only to the body, but also for the mind. Get off the couch! (Run further than from the bedroom to the bathroom at 2:30 in the morning!!!) Enroll at the gym. Run your first 5K. Join a bike club. Get the body into motion. Exercise and develop your mental skills. Learn to play an instrument. Understand how nutrients feed your brain. Broaden your professional networks. Give back to your profession. Do things that feed your passions.

7) **AHHHHHHHHHHH**

Take a deep breath and slowly feel the release as your air exits the body…….. Learn relaxation skills. Practice them to control the effects of stress and tension on your body. More importantly, learn to recognize how stress and tension feels in your body. Stress and tension will often build up during the day very slowly making recognition at times difficult. Learn to meditate or take a class in yoga.

Well there you have it. Follow these simply suggestion to a new and better you! Until the next time, remember to be safe out there!!!!
By Riki Rager, R. EEG T., FASET, BS

Is there anything new under the sun about safety? My mind immediately jumped to all the standbys we already know. Make sure the bedrail is up. First aid for seizures. Don’t use extension cords. But, everyone knows these. What could I bring to this discussion that would be worth reading?

Wikipedia says: Safety is the state of being “safe” (from French sauf), the condition of being protected against physical, social, spiritual, financial, political, emotional, occupational, psychological, educational, or other types or consequences of failure, damage, error, accidents, harm, or any other event which could be considered non-desirable.

We so often think of only the physical. But what about the other things listed above? Let’s take social as an example. Social is defined as: pertaining to, devoted to, or characterized by friendly companionship or relations. In your professional capacity, are you a tech who enjoys doing the procedures? If you are not happy then it will clearly show through and affect your patient. Patients should not be subjected to our grievances during a procedure. Complaining about your schedule, your supervisor or co-worker in front of a patient is a safety issue.

What about financial? Are you doing the procedure correctly the first time so that it does not have to be repeated due to technical errors? We all know of cases where patients have had a procedure done in one hospital and when they go to another facility the test is repeated because the first one was inadequate. That is a financial concern for the patient. It isn’t just about the co-pay. What about the time they take off work to have the procedure done? Or the time their caregiver has to take off?

The emotional element is another area of safety concern. Emotion is an affective state of consciousness in which joy, sorrow, fear, hate, or the like, is experienced, as distinguished from cognitive and volitional states of consciousness. Children are especially susceptible in this area. Do we provide an environment that is conducive to helping the child feel safe or does our environment produce fear? It really saddens me to hear, “we can’t take time to make children feel comfortable because our schedule doesn’t permit it. We are just too busy.” Yes, I know all the arguments about pressure from administration to do more with less but we have to be strong enough as professionals to explain why it is necessary to do our procedures correctly.

There are many great tools available for working with children. Our students have learned about them by attending lectures on “Working with Patients in the Autistic Spectrum Disorders.” Do you employ such tools? As an example, you could use story boards to help the child understand the steps in the procedure. If material is sent out to the parents prior to the procedure, the child can be prepared ahead of time. This can help save time when the child arrives for the procedure and includes the educational element. One hospital did a study for phlebotomy procedures. There was an 80% failure rate in drawing blood from autistic children. When a room was prepared with just one chair instead of several, the tools mentioned above employed, and the child prepared ahead of time, the failure rate dropped to 20%. If you have a Child Life group in your hospital, you might check with them on the tools available.

Psychological effects are another area of concern whether your patient is an adult or a child. Psychological is defined as: pertaining to, dealing with, or affecting the mind, especially as a function of awareness, feeling, or motivation: psychological play; psychological effect. I would like to use the following example from my own experience as a psychological effect.

I went to a physician’s office and arrived five minutes before my scheduled time as instructed. I filled out the prerequisite six pages of forms and turned them in to the receptionist. I was taken back to the exam room and a “nurse” came in and asked me the same questions I had just committed to writing. When I asked her why she didn’t read what I wrote, she replied that they never send those forms back here to us. She takes my blood pressure and finds that it is a little elevated. Then the doctor enters the room and asked me the same questions for a third time. He takes my blood pressure again and finds it even more elevated. An elevated blood pressure
was very unusual for me. I went to the lab to have blood drawn and the tech calls “Mr. Rager”. She looks surprised when I stand up and informs me that I am listed as a male on all their paperwork. Are you beginning to get the picture of why my blood pressure was elevated? The next week in a much calmer environment with people who acted like professionals, my blood pressure was perfectly normal.

Another example that comes to mind involves the length of time a patient has to wait. Teamwork goes a long way in helping in this area. I have witnessed many times and in many places that techs are assigned certain duties. One tech’s patients may all show up in one day while another tech’s patients are all no shows. Do you voluntarily help the tech who has the full workload? If not, why? What is there in your environment that would make you feel it is okay to let a patient sit and wait when you could be getting the procedure started? Ultimately, isn’t this part of the occupational safety for you?

Well, I think I’ve rambled long enough. As you can see, safety is a major concern and as we become more and more restricted in the delivery of health care, we must, if we are true professionals, pay attention to all that is involved in safety. On a lighter note, I was told recently that what I suggest is not possible in the “real” world. I replied, “You are correct, I have always worked on Mars.”

New Technologies and Research
By Marco Moreno, R. EEG T., MS

The most important safety feature in any EEG lab is the competent, knowledgeable technologist running the equipment. When I went through EEG school and we talked about patient safety, we mostly talked about electrical safety, accurate measurement, keeping the bedrails up, not creating sores on the patients’ heads, or getting collodion or acetone in the patients’ eyes. If you had an electrically isolated headbox and a proper ground on your equipment that prevented the risk of patient shock, you didn’t worry much about your equipment.

These days, all of the above still apply, but safety issues are also about speed, accuracy and security: arriving at the correct diagnosis quickly so the patient doesn’t get worse, get misdiagnosed or mistreated; making sure the patient is correctly identified so the right patient gets the right treatment; protecting patient information.

These safety issues are things that technology is able to assist the technologist to maintain. With your feedback, manufacturers can continue to improve their safety features. A number of hardware and software innovations have been implemented to improve patient care and safety:

- Synchronized video allows for clinical correlation of electrographic events – often this is a critical piece of the puzzle in reaching the correct diagnosis (some of us remember when we didn’t have the benefit of this technology).
- Digital analysis software, like spike and seizure detection and digital trending, helps you to characterize long-term EEG when the volume of data is overwhelming. As I’ve pointed out quite often: If a page of EEG is ten seconds, then it takes 6 pages to display a minute, 360 pages to display an hour and 8640 pages to display a day’s worth of EEG on a single patient! How can a human being expect to be responsible for understanding every second of that volume of data every day for each patient? What if you have 2, 3, 4, 5 patients or more running simultaneously? Digital analysis tools help you to digest the information in a faster and simpler manner. As we’ve all heard Dr. Kenneth Jordan say, “Time is brain,” so the quicker we can understand what’s really going on with the patient, the quicker we can help them.
• Networking and database software tracks and secures HIPAA protected information, protecting it from eyeballs that shouldn’t be viewing it – or changing it.
• New hardware and software controls for stimulators allow these units to detect errant stimulations, to shut down so they don’t harm the patient, and to generate error codes that identify the problem.
• New prompts and alarms require that staff members interact with equipment (and by default, the patient), ensuring that regular patient care is maintained and documented.
• High frequency EEG recordings are creating the potential for shorter periods of invasive EEG monitoring. The hope with this emerging area of research is that fast ripples or oscillations during interictal recordings will correlate reliably to the area of seizure onset, allowing us to obtain sufficient localization information without having to wait days or weeks for a patient to have seizures with implanted grids and strips. As we know, every day that passes with implants increases the risk of infection.

All of these innovations were created because of needs identified by the technologists, physicians, and researchers who work diligently to improve patient care and safety. All of these innovations require your constant feedback to the manufacturer. Gone are the days when you bought an old Grass Model 8 and didn’t talk to the manufacturer until you needed to buy another one. Keep your finger on the pulse of up and coming research and keep the lines of communication with your equipment manufacturer open and active. Your patients will benefit.

**Pediatrics and Neonatology**

*By Melanie Sewkarran, R. EEG T., CLTM*

I think Disney has it right – safety is everything. I know our hospital puts a lot of resources into promoting and ensuring the safety of our patients and employees. In our EEG lab, I’d say that our biggest safety concerns come with our more unruly patients. If the patients “just” cry, we let that happen. Since we know that we’re not doing anything to hurt them, we can just ride out the tears (they usually only last through set-up anyway) and the patients eventually calm down enough to fall asleep when the set-up is completed. For the patients who get a little more physical with their protests, we let the parents guide how far we go. If Mom and Dad are willing to help out and hold, then we just do our best to get all of those pesky wires on as quick as possible. A good tip – lose the shoes! Flailing feet aren’t so scary without them, so especially with the toddlers, the first thing we do is take off their shoes. Occasionally – but surprisingly rarely – a parent isn’t willing to put their upset child through this tedious process and even less frequently, we as techs are forced to determine that trying to “fight our way through” application just isn’t worth it. We don’t want to see parents, patients, or techs leaving with a black eye. In these rare cases we’ll contact the ordering physician and they’ll determine whether or not they want to bring the patient back at another time for a sedated set-up in our Epilepsy Monitoring Unit (we no longer sedate in our outpatient lab – it’s a safety thing).

As for our neonates, in the outpatient lab most of the same safety rules apply. Yes, they’re smaller than the rest of our patients but we don’t really have to modify our procedures for them. We do have a few safety tricks up our sleeves for the premies we encounter in the Neonatal ICU. We’re extra gentle with the prep as we “scrub” their thin, premie scalps and we do more frequent scalp checks on the patients that end up on long-term monitoring. For the babies under the warmers, we’ve found that it helps prevent skin breakdown if you cover the top of their head with a washcloth or cloth diaper. I think this keeps those metal electrodes from heating up so much under the direct heat from the warmer.
I’m sure I’ve missed some tips, but so much of it is second nature to us that we don’t realize we’re doing it. But I can’t end this article without some golden rules of standard precautions – wear gloves (we never know where those heads have been) and never underestimate the power of great hand hygiene!

**Polysomnography/Sleep Technologies**  
*By Scott Blodgett, R. EEG T., RPSGT, RST, BBA*

Happy fall! It’s hard to believe that yet another summer has flown by… For this issue, Margaret and Lucy asked the Interest Section Leaders to think about safety in the neurodiagnostic world, and specifically drill-down into our areas of focus. And, with all of the changes that we’re seeing in the sleep community, I think it’s appropriate to think about safety in our own labs.

It was difficult enough to staff our sleep labs before, but take into account the national push toward prior-authorization and home sleep testing; it made a difficult situation even worse. A decrease in our facility-based testing has started a trend of sleep technologist downsizing nationally. We’re seeing labs trying to do more with less when it comes to staff. Three-to-one patient/tech ratios are commonplace, and how many of us are now working alone? Prior authorization has taken the “easy” patients out of the lab, leaving us to test/treat only the most acute, comorbid, and sick sleep patients.

To put it simply, reduced staff (working alone) + and acute patient populations = a potentially dangerous situation!

We all know our jobs, what we are treating, and the risks to our patients. But, a simple reminder of what to look out for can always be helpful. Here are just a few potentially dangerous scenarios that came to my mind:

1. Severe sleep disordered breathing can lead to respiratory and cardiac complications (arrest).
2. Nocturnal Parasomnia or Nocturnal Seizure? What will you do if your patient has a generalized convulsion during the night?
3. Combative patients and “creepers”. Many of our colleagues are women, and many of our patients are big men. Need I say more?
4. Weather-related instances. Do you live in a severe weather area?
5. Fire. I’m convinced we don’t pay enough attention to this hazard and we all could train/drill a little more.

Identifying the risk is the first step in creating a safe workplace. I encourage each of you, staff tech and managers alike, to think about the potential risks in your lab. After identifying the hazards, clearly document them, and what your policy is in the event of an occurrence. Whether you’re working alone or you have a team it’s always better to be proactive versus reactive. One very important, yet commonly overlooked safety precaution is notifying your local emergency agencies (Fire/EMS/Police) that you’re there! Don’t assume that because they drive past your building that they know you’re there all night, or what you’re doing. It only takes a few simple phone calls to your local fire department, ambulance agency, and police department to get started. I’ve met in the past with each of them, and it always turns out to be a really great meeting! You’ll want to talk with fire and EMS about scenarios and protocols. Consider this: if you’re working alone, performing CPR, and your building is locked, how will Fire/EMS get to you? Consider giving them a master key or installing a “panic button” in the lab to activate services. Hey, you never know, after talking to these folks you just might tap-into a new referral stream of patients for your lab as well!

I wish you all the very best in health and safety this fall, and hope this brief article gave you a bit to ponder regarding safety. As always, we encourage you to reach out to us with your questions and comments! The interest section forums on the ASET website are always a great place to idea-share and crowd-source. All the best, -Scott
By Kathy Johnson, R. EEG/EP T., RPSGT, FASET

What a coincidence that we are discussing safety at the same time The Joint Commission is in my hospital for our annual hospital survey! Safety is always an important subject in the sleep center. Not only are sleep technologists responsible for patients overnight, they are frequently in isolated areas, or in free-standing facilities where they are likely to be the only ones in the building at night. So, in addition to the usual considerations in a hospital environment, we must give careful thought to how we will keep our patients, and our staff, safe wherever they may be working.

Thinking about safety does not just begin the night your patient shows up. Building design must be taken into consideration during the initial planning stages of a sleep lab. If the building or department is locked down at night (which it should be), how will emergency personnel get in if necessary? There should be some system in place for this, perhaps a buzzer system to unlock the door, preferably with a video camera to identify the person(s) requesting entrance, or if your doors have keypads, you may be able to provide emergency personnel with the code to gain entrance.

As I am sure has already been mentioned by other authors, one of the primary topics in any discussion of safety is staff training. This becomes even more important when techs are alone with patients without other hospital staff available to assist in the event of a crisis. Having policies in place that clearly outline what should be done is vital and practicing skills in emergency management is just as important as practicing technical skills. Drilling for all types of emergencies, both internal and external, are the best way to prepare for the unexpected fire, flood, earthquake, electrical outage, bomb threat, etc.

Medical emergencies must also be planned for. What is the procedure the staff is to follow if their patient has chest pain? Stroke symptoms? Seizure? Suicide threat? In free-standing sleep labs, there is no Code Blue or Rapid Response Team. Calling 911 is usually the only recourse during a medical emergency. Make sure your policies clearly define what constitutes a medical emergency and what steps are to be taken in addition to calling 911.

The other safety aspect that I wanted to call attention to is the safety of your staff when patients become belligerent, confused, or combative. This is not a frequent occurrence but it can happen. Staff should be trained in how to de-escalate situations in hopes of preventing a crisis and how to deal with the patient while awaiting assistance from 911. There are wonderful training programs available commercially or your behavioral health department may be able to provide some training.

There are many other aspects to a facility safety program, including handling of hazardous materials, evaluating your patient for risk of falling, electrical safety of equipment, and the list goes on and on. Sometimes all the noise about safety may seem overkill when things are going well……..but when things go wrong, you will be glad you are prepared……….good luck and be safe!
MEMBERSHIP NEWS AND UPDATES

ABRET News

ABRET is pleased to announce the launching of an online credential management service available through the ABRET website in fall 2012. This system will automate the entire credentialing process, from fulfilling pre-requisites to exam applications to managing recertification.


Watch for ABRET’s public awareness ad in USA Today Women’s Health, Fall 2012 issue.

NEURODIAGNOSTIC PROGRAM REOPENS, SPRING 2013

Harcum College is pleased to announce the redesign of its Neurodiagnostic Program, with new offerings including a one year course sequence for core Neurodiagnostic topics, new electives for working techs and college credit for Neurodiagnostic credentials - all beginning with the Spring 2013 semester!

Harcum's new program design will provide you with valuable educational opportunities that will boost your career.

New Neurodiagnostic students will still have the option to enroll in general education courses (simultaneously, pre-or- post Neurodiagnostic courses) or transfer credits to earn their Associate of Science Degree. Students can complete the Neurodiagnostic portion of the program in one year!

Working Technologists will now have options to enroll in Neurodiagnostic electives for topics in Evoked Potentials, Polysomnography, Nerve Conduction Studies, Long Term Monitoring and Intraoperative Neurophysiological Monitoring. Techs can enroll in single or multiple courses to learn new topics or earn credits to culminate in an A.S. degree. (EP, PSG and NCS will be offered in the spring semester. LTM and IONM will be offered in the fall semester)

Credentialed Technologists can advance their educational standing and earn an A.S. degree in less time with less expense. Harcum College will be offering college credits for Neurodiagnostic credentials. This will allow many working technologists to reduce the number of college courses they’ll need by half/30 credits.

Please visit Harcum's website for more detail and watch the video: www.harcum.edu/ndt
2013 CODING CHANGES IMPACTING NEUROLOGY

There are many coding changes that will impact Neurology effective January 1, 2013. The American Academy of Neurology has a very comprehensive review of these changes on their website. You may find this information at: http://capwiz.com/aset/issues/alert/?alertid=61912611

NEW ONLINE COURSES NOW AVAILABLE

IONM 109: Skull Base Surgery and Cranial Nerve Monitoring
(Contains: Detailed Brainstem Anatomy, BAER, Cranial nerve monitoring including Facial Nerve and Recurrent Laryngeal Nerve Monitoring)

By Jack Kartush, MD and Ilka Naumann, MD
with special lectures by:
Joshua Castle, R. EEG/EP T., CNIM
Sarah Chandler, AuD
Alan Legatt, MD, PhD
E. Tracy Mishler, AuD
Emily Murphy, R. EEG T.
Mark Ryland, MGR, AuD, R.NCS T., RPSGT, R. EP T.

Course Goals:
To provide training in the basics of intraoperative neuromonitoring in surgeries of the skull base, brainstem, and auditory pathway, as well as those requiring monitoring of any of the cranial nerves, including the facial and recurrent laryngeal nerves. Successful completion awards 20 ACE credits. All course materials are contained in the online course.

For a detailed list of the Learning Objectives lesson by lesson, click here.
CONGRATULATIONS TO OUR NEW MEMBERS [since 07.25.12]

Institutional Members

Hattiesburg Clinic PA
RSC Diagnostic Services
Safe Passage Neuromonitoring
Saint Peter’s University Hospital
St Vincent Health System
Vision Medical – Break Even

Individual Members

Arsalan Ahsan, PA, BS
Oscar Aldana, R. EEG T., AAS
Musleh Algarni
Mary Algeo, R. EEG T., RPSGT
Isiaka Amoo, MBA
Lisa Andersen, R. EEG T., AA
Marisa Anzur
Susan Apostolakis, BS
Josephine Bagunu, BS
Laci Baker, BS
Tudor Barglazan, RVT, AS
Ann Barna, AS
Dana Bateman, BA
Nicholas Bayer, CNIM, BA
Galina Berlin
Shamim Bhimani, R. EEG T., CNIM
Bob Bishop, BS
Tammaryn Bosiers
Diane Bouchard, R. EEG T.
Kate Bridle, RPSGT, BA
Kimberly Brocato, CMA, CCT, AAS
Amanda Brooks, R. EP T., CNIM
Andrew Browarek, R. EEG/EP T., BA
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Shannon Brown, BS
Joyce Buchanan, RN
Diane Buck
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James Burks, CNIM, BS
Alberto Caceres
Suzanne Carlow, R. EEG T., AS
Carmela Cetkowski, CNIM, MS
Manal Chamaa, R. NCS T., BS
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Brianne Chapman, R. EP T.
Dennis Chien, BS
Lauren Chronowski, CNIM, BS
Sally Cipiti, RRT, AS

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Lora Fischer
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Brandy Fredell
Nicole Friedland, DC, BS
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<td>Margaret Young</td>
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<td>Ahmed Yousef</td>
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ASET Foundation News

New Officers and Directors Elected to Foundation Board

At its August 3, 2012 annual meeting, the ASET Foundation Board of Directors elected Elizabeth Mullikin, MA, MPA, MNM, FACHE, R. EEG/EP T., CNIM, John Muir Neurosciences Institute, Walnut Creek, CA, as Vice Chair for a one-year term. Gail Hayden, MBA, R. EEG/EP T., RPSGT, CNIM, FASET, END Consulting, Clarkesville, GA, and Sherry Nehamkin, R. EEG/EP T., CNIM, CLTM, FASET, Cleveland Clinic, Cleveland, OH, were re-elected as Chairman of the Board and Secretary-Treasurer respectively for one-year terms. Mark Ryland, AuD, R. EP T., R.NCS.T., RPSGT, Cuyahoga Community College, Parma, OH, and Mark Berkins, Rochester Electro-Medical, Lutz, FL, were elected as directors for a three-year term. Continuing as directors on the board are Dorothy Gaither, MHA, R. EEG T., R.NCS.T., CNCT, FASET, Birmingham, AL, and Janet James, R. EEG T., R.NCS.T., CNCT, Janet James END Consulting, Navarre, FL. Continuing on the board as the physician director is Deepak Lachhwani, MD, Cleveland Clinic, Cleveland, OH.

Maura Mallowe Receives 2012 John Archibald Student Scholarship

Maura Mallowe, a student at the Crozer-Chester Medical Center School of Clinical Neurophysiology, was selected by the ASET Foundation board as the recipient of the 2012 John Archibald Student Scholarship. Maura is a champion of patient advocacy at the medical center. Upon graduation, her career goals are to work in a long term monitoring unit or the OR.

The John Archibald Student Scholarship is awarded annually to assist a student in attending the ASET Annual Conference. For 2012, the scholarship provided full registration to the St. Paul event and $500 to offset travel expenses. The selection of the scholarship recipient is based on the content of the application and letter of reference, and not solely upon academics and/or financial need.

Foundation Awards Tuition Grants

Each year, students who are enrolled full-time in a CAAHEP accredited neurodiagnostics program are eligible to apply to the ASET Foundation for a grant to help offset the cost of tuition. Persons who are already employed in the neurodiagnostic profession may also apply for a grant to offset the tuition cost to attend a 2-year junior college or a 4-year college to pursue their degree. The selection of tuition grant recipients is based on the applicant’s indication of interest in pursuing a career in the neurodiagnostics field; record of scholastic achievement, including grade point average; interest in pursuing a degree in order to serve as future faculty for the neurodiagnostic profession; and references and recommendations by instructors, employers and other pertinent individuals. This year, the Foundation board awarded tuition grants to ten very deserving and highly motivated
individuals. They are: **Barbara Argyros**, enrolled in the University of Baltimore’s Bachelors of Science degree program in Health Systems Management; **Teguo Daniel**, enrolled in the Institute of Health Sciences’ Neurodiagnostic Technology program; **Kristy Fox**, a student in the Department of Health Sciences’ Neurodiagnostics and Sleep Sciences bachelor’s degree program at the University of North Carolina School of Medicine; **Lorraine Garza**, enrolled in Laboure College’s Neurodiagnostic Technology program; **Abeba Guche**, who will be enrolling in the Department of Health Sciences’ Neurodiagnostics and Sleep Sciences bachelor’s degree program at the University of North Carolina School of Medicine; **Eklas Luteify**, enrolled in the Lincoln Land Community College’s Associate in General Education Degree in Electroneurodiagnostic Technology program; **Danita McCain**, enrolled in the Lincoln Land Community College’s Associate in General Education Degree in Electroneurodiagnostic Technology Program; **Margaret McKeiver**, enrolled in the Institute of Health Sciences’ Neurodiagnostic program; **Delores Simpson**, who will be enrolling in the Pamlico Community College’s Electroneurodiagnostic Program; and **Blair Westerman**, enrolled in the Institute of Health Sciences’ Neurodiagnostic program.

**NESET Awarded 2012 John Knott Educational Lecture**

The New England Society of Electroneurodiagnostic Technologists (NESET) was selected by the Foundation board as the 2012/2013 recipient of the John Knott Educational Lecture. The lecture was given at the NESET Annual meeting, October 20, 2012 at South Shore Hospital, Weymouth, MA. Janet Ghigo, R. EEG/EP T., was invited to give this year’s lecture. She spoke on emergencies in the Neurodiagnostic and Sleep lab.

Originally conceived by Albert Grass and John Knott, the John Knott Educational Lecture program is designed to bring a distinguished speaker to a local, state or regional neurodiagnostic society meeting, thereby providing exceptional educational opportunities for technologists who might be unable to attend the national meetings. The ASET Foundation covers the cost of hotel, travel, and meal expenses incurred by the lecturer, and a lecturer honorarium.

**New Record Set for Scholarships Awarded to ASET Annual Conference**

As the result of the generosity and participation in the Foundation’s 2012 Company Sponsored Scholarship (CSS) program, and along with the ASET Scholarship Fund, the Foundation was able to award a new record of 12 scholarships to the ASET 2012 Annual Conference held in St. Paul, MN. The scholarships covered the full cost of registration to the event and, in the case of the Synapse Neuromonitoring sponsored scholarship, $525 to help offset travel expenses to the conference. Recipients of the 2012 CSS and ASET Scholarships were: **Laura Weber**, recipient of the Cadwell Laboratories $475
professional development scholarship; Jeanine Schuller and Sharon Wollert, recipients of the Elizabeth Mullikin Consultant $225 student professional development scholarships; Ejerzain Aniles, recipient of the Lifelines Neurodiagnostic Systems $475 professional development scholarship; Heather Dixon, recipient of the $475 Nihon Kohden America Continuing Education Scholarship; Kelly Clement, recipient of the $1,000 Synapse Neuromonitoring Continuing Education Scholarship; Lorraine Hinerman, Cynthia Nguyen, and Donna Jacobs, recipients of the $475 Weaver and Company Professional Development Scholarships; and Erica Collins, Susan Johnson, and Elizabeth Mi, each recipients of the ASET Foundation’s ASET Scholarship.

The ASET Foundation gratefully acknowledges the following individuals who have made a general or named donation to the Foundation since 07/25/2012, or who have donated to the Foundation’s Silent Auction. Thank you for your continued support!

ABRET
Judy Ahn-Ewing
Lerma Ampu-An
Becky Appenzeller
Jeff Balzer, PhD
Denise Bates
Patti Baumgartner
Mark Berkins
Judi Berry
Cathy Boldery
Clarimar Borrero-Meitias, MD
Jennifer Bortz, PhD
Justin Breen
Lorrie Breen
Jack Brown
Deb Carson
Joleen Chamberlain
Rebecca Clark-Bash
Helen Colon
Cathy Cross
Cuyahoga Community College Neurodiagnostic Program

Joseph Drazkowski, MD
Cynthia Ferrell
Carrie Ford
Dorothy Gaiter, In Memory of “Ronnie” Rice
Lisa Gassman Staggers
Mandy Gist
Greater New Orleans Electroneurodiagnostics Association
Dena Hancock
Kathyn Hansen
Leah Hanson
Gail Hayden
Larry Head
Faisal Jahangiri, PhD
Janet James
Dr. Dev Jayram
Knowledge Plus
Deepak Lachhwani, MD
Ilo Leppik, MD
William Litchy, MD
Dr. Candida Lutes
IMPORTANT DEADLINES AND OPPORTUNITIES

NOVEMBER
- November 4, 2012 – Daylight Savings Time Ends
- November 11, 2012 – Veteran’s Day
- November 14, 2012 – ASET Webinar – Digital Analysis and Trending in EEG
- November 22, 2012 – Thanksgiving, ASET Offices Closed
- November 23, 2012 – ASET Offices Closed

DECEMBER
- December 24, 2012 – Christmas Eve, ASET Offices Closed
- December 25, 2012 – Christmas, ASET Offices Closed

LINKS OF INTEREST
- Neurodiagnostic News Flash: Sharing our Neurodiagnostic Heritage with the World
- ASET Online Education
- Faye’s Department of Education Blog
- Credentialing Organizations
- Employment Exchange/Career Center
- ASET Staff: Special Services
- ASET on Facebook
- ASET on Twitter
Announcement Policy – The appearance of meeting, course and workshop announcements in this newsletter does not constitute endorsement or approval by ASET of the content or quality of the program. Announcements are accepted subject to publisher's approval, must be relevant and may be altered for clarity, style and length. Most events are paid advertising.