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Hypersomnolence at Sea, Part I
How to Make the Most of AAST's 2018 Annual Meeting
WE ARE CONTINUOUSLY IMPROVING FOR YOU.

“Everything I do is about **continuously improving** the therapy; make it easier to use, easier to tolerate, easier to accept.

I love the process of asking patients what would make their lives easier, sharing that with product development and then seeing the end result. The ability to share and impart knowledge is what drives me each and every day.”

*Rebecca, Clinical Research Scientist*

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In patients with excessive daytime sleepiness...

**LOOK DEEPER on overnight PSG**

**TIRED ALL THE TIME**

What is a nocturnal SOREMP?
- Sleep-onset REM period (within ≤ 15 min of sleep onset) on overnight PSG
- Specific marker for narcolepsy type 1-3
- Part of ICSD-3 and DSM-5 diagnostic criteria for narcolepsy

What do I do next?
- Repeat PSG, followed by MSLT³
- Conduct a thorough clinical interview, including evaluation for cataplexy

**PSG and MSLT are the only sleep laboratory tests for diagnosing narcolepsy²**

1. If MSLT has not been performed, or if previous results were inconclusive.
2. Home sleep apnea testing (HST/HSAT) is only appropriate for the diagnosis of OSA in patients with a high pre-test probability of moderate-to-severe OSA and is not appropriate for the diagnosis of narcolepsy.⁴
3. AAST, American Association of Sleep Technologists; DSM, Diagnostic and Statistical Manual of Psychiatric Disorders; ICSD, International Classification of Sleep Disorders; MSLT, Multiple Sleep Latency Test; OSA, obstructive sleep apnea; PSG, polysomnography; REM, rapid eye movement.

REFERENCES

Hypnogram courtesy of Russell Rosenberg, PhD, Atlanta School of Sleep Medicine and Technology.

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Quarter Three 2018
From the Editor

Collaborating for the Future

By Laura Linley, CRT, RPSGT, FAAST

This is my final submission as the editor of A2Zzz. It has been my honor to work on this publication and serve AAST. I have been blessed to work with industry leaders and mentors and have learned so much about the technological and wellness advances in our field.

In this issue of A2Zzz, you will find the president’s message highlighting the AAST 2018 Annual Meeting. The Program Committee has worked diligently to put together the first AAST standalone meeting. (Check out the conference tips from our Strategic Content Committee on page 21).

I am excited and proud to participate in this education and networking event coming up in Indianapolis.

Our cover story features four perspectives on sleep tech education. This is followed by “The Changing Face of Sleep Technology, Part III,” by Kent Caylor. Reg Hackshaw continues to dive into history and uncover sleep truths in his article “The Sinking of the H.M.S. Bonetta: A Story of Hypersomolence.”

Recently, I was able to attend the American Academy of Craniofacial Pain (AACP) 33rd annual International Clinical Symposium in Kansas City, Missouri, on July 20 and 21. AAST attendance at this meeting was a result of the AACP leaders reaching out to Rita Brooks, AAST president, and beginning discussions on how our two organizations can align to support dental sleep medicine.

AACP is committed to the relief of craniofacial pain, temporomandibular disorder (TMD) and sleep-disordered breathing. He spoke on the correlation of complaints of primary insomnia and sleep apnea in patients with myofascial TMD and the need to refer TMD patients complaining of sleep disturbance for polysomnographic evaluation. His discussion on primary insomnia and how it may be linked with central sensitivity and could be playing an etiologic role in idiopathic pain disorders left me with wanting to learn more.

Steven R. Olmos, DDS, presented on craniofacial pain, temporomandibular disorder (TMD) and sleep-disordered breathing. He spoke on the correlation of complaints of primary insomnia and sleep apnea in patients with myofascial TMD and the need to refer TMD patients complaining of sleep disturbance for polysomnographic evaluation. His discussion on primary insomnia and how it may be linked with central sensitivity and could be playing an etiologic role in idiopathic pain disorders left me with wanting to learn more.

AACP will be exhibiting and presenting at the AAST Annual Meeting. I encourage you to stop by to welcome them and hope you enjoy the new and different information they will present. It is exciting to see that we can now collaborate with other associations and disciplines and learn from them in order to expand our understanding and treatment of sleep disorders – and teach them something about sleep.

I found it interesting to participate not only as the AAST representative but as an attendee. A few highlights of the sessions were the lecture by William M Hang, DDS, MSD, who spoke of adults who have had teeth extracted for orthodontic reasons and suffer from Extraction Retraction Regret Syndrome™ (E.R.R.S) and OSA patients. His case studies on compromised airways and OSA had me completely engaged and drove home the point that dental sleep medicine is critical in identifying and treating OSA. The video story “Just Like Grandpa” on the familial component of facial/oral structures and OSA left me in tears and frustrated with how much educational work we still have to do!

Patrick McKeown, MA, Diplomate BM, is an author and breathing practitioner. He led a workshop presentation on optimal breathing for improved health and had the entire audience participating in exercises encouraging breath holding and nasal breathing and providing participants an understanding of how nasal and oral breathing affect outcomes. These exercises are definitely worthy of being incorporated into sleep practice and something a sleep technologist could master.

I encourage all of you to continue to grow your understanding of sleep wellness and broaden your role in expanding, advocating for and promoting our field.

Fondly,
Laura Linley
The difference is like night and day

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*2016 Philips sponsored market study
In my previous message, I shared some of AAST’s illustrious history, including its many changes over the past 40 years. I also went into detail about AAST’s first independent annual meeting, which will be starting in just a few short weeks!

I’m beyond excited to meet with AAST members, vendors and speakers in Indianapolis from Sept. 28-30. In particular, I am looking forward to excellent presentations from our keynote speakers Henry Givray and Mary Smith; and our distinguished lecturers, Meir Kryger, MD, FRCPC, and Teofilo Lee-Chiong, MD, who will be discussing the past, present and future of sleep medicine and advanced PAP therapies, respectively.

If you’re interested in hearing more about the topic of Dr. Lee-Chiong’s lecture before you go to the meeting, you can read an interview he did on the AAST blog: [www.aastweb.org/blog/distinguished-lecturer-teofilo-lee-chiong](http://www.aastweb.org/blog/distinguished-lecturer-teofilo-lee-chiong).

If you’re a first-time attendee to a sleep meeting — or even if you’re a seasoned veteran — I suggest checking out the article on page 21 called “How to Make the Most of AAST’s 2018 Annual Meeting.” The piece was originally written by Tamara Sellman, RPSGT, CCSH, in June 2016, but it’s been updated with tips for our new conference as well as some advice from our Strategic Content Committee members. I also encourage you to register for the BRPT’s Special Forum at the annual meeting. It’s titled “Going Beyond the RPSGT Credential – The Increasing Relevance of the CCSH Credential in Today’s Healthcare Environment” and it is being held on the first day of conference, Sept. 28, from 8 a.m. to noon.

Those who register will learn how leaders are putting their CCSH credential into practice and billing for their services, as well as be part of a panel discussion that will touch on opportunities for credential holders. Plus, you will be able to earn four additional continuing education credits for the session. You can still add the CCSH forum onto your registration if you haven’t yet! Click here.

As always, enjoy this issue of A2Zzz, and I hope to see you at the meeting!
Instructions for Earning Credit

AAST members who read A₂Zzz and claim their credits online by the deadline can earn 2.0 AAST Continuing Education Credits (CECs) per issue, for up to 8.0 AAST CECs per year. AAST CECs are accepted by the Board of Registered Polysomnographic Technologists (BRPT) and the American Board of Sleep Medicine (ABSM).

To earn AAST CECs, carefully read the four designated CEC articles listed below and claim your credits online. You must go online to claim your credits by the deadline of Nov. 30, 2018.

After the successful completion of this educational activity, your certificates will be available in the My CEC Portal acknowledging the credits earned.

COST
The A₂Zzz continuing education credit offering is an exclusive learning opportunity for AAST members only and is a free benefit of membership.

STATEMENT OF APPROVAL
This activity has been planned and implemented by the AAST Board of Directors to meet the educational needs of sleep technologists. AAST CECs are accepted by the Board of Registered Polysomnographic Technologists (BRPT) and the American Board of Sleep Medicine (ABSM). Individuals should only claim credit for the articles that they actually read and evaluate for this educational activity.

READ AND EVALUATE THE FOUR FOLLOWING ARTICLES TO EARN 2.0 AAST CECs:

- **4 Perspectives on Sleep Tech Education**  
  **Objective:** This article will give the reader a view of four different viewpoints on the education landscape: student, program director, course developer and professor.

- **The Changing Face of Sleep Technology, Part III**  
  **Objective:** This article will provide a glance into what the future of sleep technology might look like.

- **Hypersomnolence at Sea, Part I**  
  **Objective:** This article will provide a historical overview of a 19th century British warship that was lost due to a sleeping bridge officer.

- **How to Make the Most of AAST’s 2018 Annual Meeting**  
  **Objective:** This article will offer tips, tricks and other best practices for navigating a sleep professionals conference such as AAST’s Annual Meeting.

STATEMENT OF EDUCATIONAL PURPOSE & OVERALL EDUCATIONAL OBJECTIVES

A₂Zzz provides current sleep-related information that is relevant to sleep technologists. The magazine also informs readers about recent and upcoming activities of the AAST. CEC articles should benefit readers in their practice of sleep technology or in their management and administration of a sleep disorders center.

READERS OF A₂Zzz SHOULD BE ABLE TO DO THE FOLLOWING:
- Analyze articles for information that improves their understanding of sleep, sleep disorders, sleep studies and treatment options
- Interpret this information to determine how it relates to the practice of sleep technology
- Decide how this information can improve the techniques and procedures that are used to evaluate sleep disorders patients and treatments
- Apply this knowledge in the practice of sleep technology

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4 PERSPECTIVES on Sleep Tech Education

By Alexa Schlosser
Sleep technologists have an important and wide-ranging job. They care for patients with sleep disorders, which can encompass comprehensive evaluation and treatment of sleep disorders, including in-center polysomnographic testing and out-of-center sleep testing; diagnostic and therapeutic interventions; comprehensive patient care; and direct patient education.

Because sleep-care services vary widely, sleep technologists need the proper advanced education to be able to think critically and independently. AAST has stated that those who perform sleep testing procedures and patient care services should have completed an accredited education program leading to a certificate or associate's degree with an emphasis in sleep technology (or an associate's degree or higher from an accredited college or university).

They should also have certification by a nationally recognized certification board and hold the Registered Sleep Technologist (RST), Registered Polysomnographic Technologist (RPSGT) or Sleep Disorders Specialist (SDS) credential. Finally, they need a license to practice sleep technology in any state that requires that you do so.

Of course, the field is constantly changing. New technologies emerge, programs transform and the sleep tech must rely on education to keep up. We wanted to check the pulse of the education landscape, so we caught up with a few people who have different perspectives on the topic.

The Student Perspective

There’s a saying Steven Klinger likes: “You should never stand by the side of the water when you go to the beach. Take the plunge. Dive in and enjoy!” Klinger is a student of the sleep and neurology program at the University of North Carolina, and he’ll tell you he’s jumped right in.

Before enrolling at UNC, he received his AAS degree in polysomnography from Thomas Edison State College, but he wanted more. He says he’s always been interested in higher education and “becoming all that [he] could become as a student.”

As a sleep professional, Klinger understands the importance of keeping pace with the advances in thinking and best practices in the sleep lab.

“The model now is trending toward staying healthy as opposed to treating diseases,” he says. “This offers new opportunities to those of us in the sleep wellness arena. New credentials such as the Certification in Clinical Sleep Health (CCSH) will become more common and utilized in the hospital setting. They also will have a role in community wellness programs, speaking and advising local groups about proper sleep hygiene.”

Klinger also sees the field of sleep branching out. Running and scoring sleep studies is just one career option; managing a sleep lab, for example, is another option, and one that requires skills other than the basic technical ones.

“That is where the program at the University at North Carolina Chapel Hill is so important for my self-development,” he says. “This degree will allow me to expand and branch out to many different outlets in the field of sleep. If I choose to be a manager, work for a DME or even create my own sleep coaching company, I will be prepared. I will be confident that I have acquired the grassroots knowledge, the management sense and the business knowledge that will enable me to serve my community better. My focused efforts have connected me to something vastly bigger than I anticipated. I no longer have just a career. I have a passion!”

The Program Director Perspective

Melissa Henry, BS, RPSGT, got started in the sleep-care field after being a patient in a hospital sleep lab. Now, she’s the program director of the Polysomnography Technology, Health & Science Division at the College of Dupage, the only accredited Certificate Polysomnographic Technology Program by CAAHEP.

As the program director, Henry has the unique opportunity to monitor how students perform in the program, whether they pass the RPSGT test and where they go afterward.

“Employment for my students has been good. Students in the last three cohorts have all found jobs in the field prior to graduating from the program,” Henry says. “Ninety percent of students who have attempted to take the RPSGT registry have passed on the first try.”

That’s not to say the program is a walk in the park. Henry says the biggest issue students have is maintaining their grades while attending school and clinical practice for the program.

Ultimately, Henry’s advice for students is to just get your start somewhere and lean in hard. “Be flexible and open to travel and work days that may not be ideal for you,” she says. “Be a sponge, ask questions and be an active listener. Do not think you are prestigious and should be compensated what a technologist with 10 years of experience is making.”
The goal of the program is to prepare adults to become certified sleep technologists, as well as enable allied health professionals working in the field to advance professionally.

The Professor Perspective
Lisa Endee received her Bachelor of Science degree in respiratory care from the State University of New York at Stony Brook University in 1999. Thirteen years later, she joined the faculty at Stony Brook full time. It didn’t take long after graduating for her to realize her strong interest in sleep-related breathing disorders.

“After obtaining my RT license, I sought out additional training in sleep diagnostics and therapeutics,” she says. “I was very motivated to help identify, diagnose, and treat patients with sleep disorders in an effort to help improve their sleep and overall health.

Stony Brook University’s Polysomnographic Technology Program is essentially brand new (its first graduating class was June 22, 2018), and it’s the first of its kind in the country.

“The program includes 78 upper division credits in polysomnography, including courses in electoneurodiagnostics, dental sleep medicine, pediatric polysomnography, management, clinical teaching and research methods,” Endee says. “The program facilities employ two mock patient bedrooms with 12 acquisition/scoring stations. The students are required to attend 26 weeks (1,000 hours) of clinical rotations through numerous accredited sleep centers across Long Island, where they are exposed to all aspects of sleep technology, from entry level setups to advanced management skills. Graduates of the program are eligible to apply for both the RPSGT and CCSH exams, as well as for New York state licensure.”

While it’s too early to draw conclusions on outcomes for program graduates, Endee says that all of this year’s graduates had multiple offers of employment prior to graduation.

“Before opening the bachelor’s program, the school ran a CoA PSG approved 10 month certificate program for about five years. All graduates of this certificate program had numerous job offerings, and many are still employed at local facilities acting as clinical preceptors for our program,” she says.

The Course Developer Perspective
Rochelle Zozula, Ph.D., DABSM, has been an educator in all aspects of sleep medicine for several decades. She is currently a clinical associate professor of neuroscience at Seton Hall University, and she recently developed courses and serves as a mentor for online educational programs for training sleep technologists with Thomas Edison State University.

“I became involved with Thomas Edison State University (TESU) through my colleague, Rita Brooks, who is the current president of AAST,” Zozula says. “We collaborated on developing the initial courses for the associate degree and certificate program in polysomnography (PSG), which are offered through TESU’s School of Applied Science and Technology.”

The Polysomnography Program at TESU is unique, Zozula says, because it is geared toward adult learners. The goal of the program is to prepare adults to become certified sleep technologists, as well as enable allied health professionals working in the field to advance professionally.

The associate in applied science degree with an area of study in polysomnography is a 60-credit degree. The Undergraduate Certificate in Polysomnography is 16 credits, and holders of the RPSGT credential can earn up to 16 credits and apply them toward the associate degree in PSG. The programs are a hybrid teaching design, incorporating several online courses, as well as clinical site experiences. Both the degree program and certificate program are CAAHEP accredited.

“As the field of sleep medicine evolves,” Zozula says, “there is a need for more advanced training in polysomnography. Sleep technologists need to be able to handle and address
the needs of more complex sleep disorder patients, which include patients with more chronic underlying medical and psychological conditions. Through the associate degree program, the application and extension of the student’s knowledge base in the field of polysomnography is fully tested, as it involves advanced courses in PSG scoring, clinical sleep disorders, two clinical on-site courses, and a capstone course that provides preparatory materials for the registry examination in polysomnography.

While all of this seems very promising for the future of sleep medicine, there are some difficulties involved. Finding placement for students’ clinical training has proven tricky. There are currently two accredited sleep centers participating in the TESU polysomnography programs: one in Hamilton, New Jersey, and the other in Port Jefferson, New York.

Zozula says: “We are looking to expand our clinical sites and welcome opportunities to partner with sleep centers across the country.”

Conclusion

No matter where you stand in the field — student, program director, professor or course developer — all sleep-care professionals should stay on top of trends, technologies and best practices. Sleep programs and certifications will likely continue to expand, keeping future sleep professionals on their toes and ready for what’s next.

ALEXA SCHLOSSER is the managing editor of A2Zzz magazine. Interested in contributing to the magazine? Email her at aschlosser@aastweb.org.
Last chance to register!
www.aastweb.org/2018AnnualMeeting
The Changing Face of Sleep Technology, Part III

By Kent Caylor, RPSGT

This article is part three in a four-part series on the ever-changing face of sleep technology. In this article, we’ll address the following questions: What does the future of sleep medicine look like? How will evolving technology change the way sleep studies are done? And, just as importantly, how will economic pressures affect sleep medicine?

The Sleep Lab of the Future

The financial viability of future sleep centers needs to be taken into account. As more home studies are done, more sleep center beds will be empty. What will this do to the sleep center itself? Will some centers be forced to close? And, if they do, where will those patients go? Also, what will happen to the building itself? This change could initially lead to a number of bankruptcies and layoffs, which alone could have a negative impact on the economy.

And although there will continue to be a need for in-lab studies (at least in the foreseeable future), the main revenue might be coming from home sleep apnea tests (HSATs). As the volume of HSATs increase, the volume of in lab studies will naturally decrease. This will ultimately lead to a reduction in sleep technologists, with a reassignment of others to different tasks (more on this in my next article).

This might ultimately lead to more sleep labs set up in hotel rooms with short-term leases, or maybe even clinics that double as sleep labs overnight. Whatever the outcome, sleep centers and technologists need to stay ahead of the game as the move is made toward more HSATs.

Will the Canary Die?

(Back in the days of coal mining, miners would use canaries to test for lethal gas.)

Another potential problem sleep medicine faces is how it’s perceived by medical students. The following issues could make sleep medicine less attractive:

• In-lab sleep studies will continue to decrease, which also means a reduction in reimbursements.
• Having just completed four to six years of postgraduate medical school, will students find another year of sleep training financially worthwhile?
• Because most patients are diagnosed and treated for sleep apnea, there is concern about how intellectually stimulating sleep medicine is perceived.

However, there’s something else to consider. With the increase in HSATs on the rise, the need for telemedicine will likely increase.

Telemedicine

With the increasing use of the internet, people are becoming more connected to healthcare services. Thus, in the future, it will become increasingly more common to meet with your doctor via the internet. This will also mean we will have access to more information, which will naturally lead to the possibility of patients becoming more involved in their healthcare.

Additionally, sleep studies should work well with telemedicine, creating a new branch called telepolysomnography, or maybe just telesomnography. You may even be able to have a Type I sleep study in the comfort of your home, with data livestreamed via telemonitor. And while some of the benefits of telemedicine include convenience and saving on healthcare costs, there’s also a downside, such as reduced personal interaction with your doctor.

All this will, of course, be limited to countries with the technology and those with smart homes.

Smart Homes

In a smart home, devices are connected to one another via internet/Wi-Fi. These devices are activated either by voice, motion and/or iPad/smartphone, etc. Any device that uses electricity can potentially be connected to the internet. For example, a lightbulb that can be turned on by an app on your smartphone, or maybe even just motion activated. These devices
are part of what has been termed The Internet of Things (IoT). Add artificial intelligence (AI) into the mix and you have a home that will take care of both you and itself. This, of course, has both good and bad implications.

For now, let’s take a closer look at how IoT and AI could work together as they relate to sleep.

**IoT with AI**

Artificial Intelligence takes many forms and is even hard to clearly define. But, for our purpose, any machine capable of learning and problem solving is considered AI. With that, let’s see how this technology could affect future sleep studies.

To begin with, insurance companies continue to push for more home studies; thus, smart homes equipped with AI enabled IoT will facilitate more accurate studies. For example, let’s say you’re set up for a sleep study. Your doctor gives you the equipment and shows you how to apply it. Or, more likely, a sleep tech will be working with your doctor, and they will show you how to apply everything.

Once you’re home and hooked up, your smart bed tracks your movement, while sensors detect the various signals. You could also be supplied with an infrared camera that can be remote viewed via Skype. All the data is then livestreamed to a remote computer, which is either manned by a sleep tech and/or monitored by an AI device. If there are any problems during the study, you could be immediately alerted and talked through the proper course of action to reconcile whatever the issue is.

There’s already a device on the market that monitors sleep via a non-contact biomotion sensor. There are also apps that connect to your sleep apnea device. The future of sleep studies, at least from a technological standpoint, is alive and well.

However, this technology also raises some serious security and privacy concerns, especially as these tools become more integrated into our lives. With all this information available on the internet, security is going to be an even greater problem than it is today. For instance, imagine someone hacking into your smart home. One security method could involve a more advanced form of biometric authentication using artificial intelligence. Fingerprint, voice and/or face recognition, to name a few, will need to become much more accurate than they are today.

Nanomedicine is another branch of science that hold promise for sleep technology.

**Nanomedicine**

Nanomedicine is the manipulation of individual atoms and molecules to create little “machines” that can be “programmed” to perform specific tasks. The size of these machines are measured in nanometers. And to give you an idea of the size of these machines, consider this: Your fingernail grows at the rate of one nanometer per second, a human hair is 80,000 to 100,000 nanometers thick, and a piece of paper is about 100,000 nanometers thick.

So how does it work? And just how does this fit in with sleep medicine?

Presently, there are nanoparticles (NPs) being designed for introduction directly into the body for diagnostic and therapeutic purposes, including disease prevention. Thus, the way is already being paved for using nanomedicine for both diagnosing and treating OSA, and other comorbidities associated with it. Imagine using “nanobots” to monitor everything from brain waves, to heart rate, and even respiration. These nanobots could be either inhaled or injected, and ultimately eliminated once their function is complete.

However, this does present some toxicological concerns for a number of reasons. One of these is that potential toxicity of a particle increases as the surface area increases relative to overall mass. And, as you can imagine, the smaller the particle, the greater the surface area is relative to overall mass. Also, particles “act” differently at NP size. Therefore, not only safety, but quality and efficacy of nanomedicinal products (NMPs) will need to be established.

And just what will we learn as research continues on the brain?

**Physical Exercise and Brain Health**

The human brain is an amazing organ. We already understand how much better the brain functions during physical exertion/exercise. What will this mean for future generations? As healthcare becomes more prevention focused, it seems likely that insurance companies (already trying to keep costs down) will push even more for fitness programs.
We already know physical activity has a positive effect on the hippocampus, which is the area of the brain necessary for memory formation. Additionally, the hypothesis is that just as physical activity enhances neurogenesis (creation of new neurons), stress and depression reduces the same. And, of course, without neurons carrying information throughout the nervous system, we could neither think nor feel. In fact, studies show that people who exercise are less likely to suffer from dementia. And even adolescents who exercise have been shown to make better decisions. Work is continuing with The Brain Research through Advancing Innovative Neurotechnologies® (BRAIN) Initiative, and the Human Connectome Project. These projects are aimed at mapping individual brain cells with the goal of capturing complex neural circuit interactions in real time. This research will gain a better understanding of the brain and will aid in the treatment of brain disorders, such as dementia.

Sleep Disorders

As research on the brain continues, what new discoveries will be made that will directly affect the treatment of sleep disorders? EEGs only record those brainwaves emanating from the surface of the brain. There are also brainwaves deep within the brain. Are these also significant? Will further research reveal things about both the sleeping brain and awake brain that we’re missing? And, if so, how could these findings change/improve treatment of various diseases, sleep related and otherwise?

Also, increasing obesity rates may translate into an increase in sleep studies. But again, the demand for sleep technologists could decrease as home studies increase. Along with the move toward more preventive medicine, the role of insurance will also change.

Insurance

Insurance in the U.S. has traditionally been focused on curing disease, with an emphasis on quantity of care. Yet, healthcare in the U.S. is not only significantly higher than other developed nations, quality of care is lower than many. In fact, according to the World Health Organization, the U.S. ranks 37th in overall quality of care. Today, health insurance is in a state of flux, and the new focus is on disease prevention, with an emphasis on quality of care.

Also, other positive changes are in the works. For instance, a task force met recently to discuss the future of sleep medicine. Among the various models discussed, the most viable one is the patient-centered medical home model of care (PCMH).

Currently, patient care regarding sleep studies is occasional, with the primary care physician taking on the main responsibility for care management. Under PCMH, responsibility of care becomes more of a team approach, as other medical staff take more active roles. And the goal is a more consistent long-term team management of chronic diseases.

The Future Looks Exciting

We don’t know for certain what the future of sleep medicine will be like, but from the looks of present technology, that future looks bright. Although advances in technology will lead to changes in the role of sleep technologists. Therefore, in the next article, we'll take a look at what that role might look like.

Further Reader

KENT CAYLOR, RPSGT, has been performing sleep studies since May 2006. He works for Precision Diagnostic Services, located in Fargo, North Dakota. He has a blog called Kents Sleep Blog and is also an active contributor to the American Sleep Apnea Association.
I must go down to the seas again, to the lonely sea and the sky,
And all I ask is a tall ship and a star to steer her by
All I ask is a merry yarn from a laughing fellow-rover,
And quiet sleep and a sweet dream when the long trick’s over.  
—John Masefield, 1916

Drowsy watchkeepers on vessels navigating open waters can be a major hazard during military and commercial shipping operations. The sinking of the H.M.S. Bonetta, a 19th century British warship, was a dramatic example of human error related to hypersomnolence at sea (HSS). The consequences resulting from a sailor who fell asleep during his shift on the ship’s bridge are preserved in a historical account. This article surveys the significance of HSS based on the findings of an extensive research study and subsequently highlights events surrounding the loss of the Bonetta. Reviews of subjective scales used to identify HSS, and a computer application that estimates likelihood of drowsiness during the night shift, conclude this two-part series.

Project Horizon
An international study composed of nearly a dozen European academic institutions and shipping industry representatives examined the effects of sleep loss on cognitive performance among maritime watchkeepers. The officer on watch oversees bridge operations of a vessel during the shift. Among the many responsibilities of the watchkeeper are mapping the ship’s position and maintaining course; managing radio communications; updating the ship’s log; and passing along information during the shift change.

Drowsy Versus Fatigued
Their report published in 2012 differentiates drowsiness, defined as the struggle to delay sleep onset because of working irregular hours during the nightshift, from the more general experience of physical or mental fatigue caused by long daytime hours and demanding work responsibilities. According to the International Classification of Sleep Disorders, a circadian rhythm sleep disorder (CRSD) due to a chaotic work schedule can impair cognitive performance. The significance of reducing human error attributed to CRSD is evident, considering the vast majority of the world’s trade moves across the seas 24 hours of every day in cargo vessels of increasing size (See Figure 1). Furthermore, the technological sophistication of bridge operations has placed increasing attentional and reaction time demands on watchkeepers. In novel or emergency conditions requiring full situational awareness, performance in these areas can deteriorate rapidly from sleep loss. Performance deficits have major economic and ecologic consequences as demonstrated by the Exxon Valdez tanker incident of 1989. Reportedly, the bridge officer slept only five to six hours during the previous 24 hours before grounding the vessel.
Asleep on the Watch

The loss of the Bonetta was one of the earliest documented cases of a shipwreck specifically attributed to a sleeping bridge officer. His Majesty’s Ship Bonetta was a sail-propelled vessel of the Royal British Navy. On Oct. 25, 1801, it crashed into a reef that parallels the southeastern coast of Cuba, known as the “Jardines de la Reina” or Gardens of the Queen. Although the crew was rescued by a passing Spanish vessel, the Bonetta and its contents were lost at sea.

A court martial assembled in 1802 assigned sole responsibility for the disaster to the watch officer. He was convicted of disobeying orders by sleeping on the job, dismissed from military service without pay and sentenced to debtor’s prison in London for two years.

Sources

REG HACKSHAW, EdD, has over 20 years experience delivering diagnostic and therapeutic services to the sleep-deprived community. Currently, he works as a mentor for students enrolled in the PSG certificate and associate programs at Thomas Edison State University in Trenton, New Jersey.
How to Make the Most of AAST’s 2018 Annual Meeting

By Tamara Sellman, RPSGT, CCSH

Editor’s Note: Parts of this article were originally published in the June 2016 issue of A²zzz.

The AAST 2018 Annual Meeting is quickly approaching. Whether it’s your first conference or you’re a veteran, everyone could use help maximizing their time.

Savvy conference-goers know this: While sessions are valuable, the conversations between them are invaluable. Face-to-face networking with your peers is the No. 1 reason why you should attend any conference.

Education rates a close second, sure. CECs count! But getting to know the people inside your field opens up realities — both good and bad — of working in our specialized healthcare niche.

Our work, especially if it’s all at night, can be lonesome and invisible. If we meet and bond with others who do the same thing, we all stand to benefit from their support, ideas, camaraderie and expertise even during the loneliest shifts at the lab. If you’re attending the conference in Indianapolis Sept. 28–30, here are some surviving and thriving tips:

• Make a plan. Consult the schedule in advance, highlight all that interests you, then write in these events on a daily calendar to identify any overlap. Prioritize them to prevent making last-minute decisions you may regret later. You can always change your mind.

• Sample everything. The 2018 Annual Meeting offers a wealth of networking opportunities. Besides the breakout sessions, there are pre-conference sessions, keynotes, distinguished lectures, panel sessions and much more.

• Get bonded. Look for chances to get to know your peers better by stepping out for meals or post-conference drinks.

• Respect the sponsors and vendors. Vendors pay big money to sponsor meetings, many of which can’t take place without this investment! Let them show you new technologies, even if you’re not currently using them (i.e., oral devices).

• Fill out your forms. CECs are a key reason why you attend, right? Most live events offer a year’s worth. It’s easy to skip a visit to the host table, but you must remember to follow through on paperwork so you can receive your credits.

• Be present. Don’t check email or play games during sessions. Do your cellular business between sessions, then put away the smartphone, turning off ringtones and vibrate features. Eye contact cannot happen if your baby blues are trained on a handheld screen.
What’s Your Biggest Piece of Advice for Conference-goers?

“Dive in when you attend! Get involved, introduce yourself, ask questions and enjoy the camaraderie of your fellow sleep professionals. And, of course, have fun! You must attend the Blues Night on Saturday, Sept. 29. It’s a great tradition!”
—Brendan Duffy, CCSH, RPSGT

“Network. You can learn so much from people. You never know what advice and opportunities are out there. Be open-minded and socialize. A great way to do that is through the dinner reception and forum with Philips Respironics and the Blues Night.”
—Sarah Brennecka, BA, RPSGT

“As a longtime attendee of the AAST meetings (30 years without a missed meeting!), some of the strategies I have learned over the years to get the most out of the meetings include:

- Look over the schedule, and decide what your focus is. Frequently, there are overlapping break-out sessions and presentations. It is important to review the schedule prior to arriving, so you have a preliminary plan.
- Sleep. I remember when I first started in this field in my 20s, I hardly slept or ate at the meetings, because there was so much to do and see. This behavior, as we know, does not promote learning and retention. Be sure to get enough rest, drink lots of water, and eat properly. If you get in a little exercise or walking, that is a bonus!
- Meet new people every day. One of my goals early in my career was to take advantage of networking. My goal was to get to know as many people as possible from different areas and learn how they are doing things. You’d be surprised how different things can be in different regions. If you have only worked in one lab your entire career, it is good to branch out and see how things are done elsewhere, especially if you still need to take the exam for your credential.”
—Kimberly Trotter, MA, RPSGT

- **Come calling.** Entrepreneurial technologists should bring business cards to hand out freely. If you’re looking for a new job, want to work in public education, or advance yourself by applying the CSH credential, business cards are essential.
- **Give a shout-out.** Contact your peers in social media groups and forums before the event to see who’s going. Plan to meet them face-to-face. This is Networking Basics 101, and it works for every person at every level in every field.
- **Keep your ears to the wall.** The people who speak out and come forward are most inclined to make positive change. At controversial sessions, note the activists in both the panel and the audience. If they inspire you, introduce yourself to them to say thank you.
- **Make a to-do list.** As you jot down notes, add action items to them to follow up on later. These give actionable context for scribbling you may not be able to interpret later. Then follow up. Turn those action items into reality within a week’s time.
- **Know your purpose.** Why are you there? Whatever it is that motivates you to go to a conference, keep your eyes on the prize. If you do so, it’ll be easy to rise early and head down those carpeted halls to the ballroom with its oversized chandelier to get what you came for.

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**INNOVATIVE EDUCATION**

- **20** Continuing Education Credit Hours
- **3** Keynote Presentations
- **12** Breakout Sessions
- **4** Panel Sessions
- **2** Pre-conference Sessions
- **2** Distinguished Lectures

**CONNECT WITH THE COMMUNITY**

- **Opening Reception**
- **Blues Night**
- **Women in Sleep: Dinner Reception and Forum with Philips Respironics**

**CAN’T-MISS PRESENTATIONS**

- **Distinguished Lecture: Sleep Medicine: Past, Present and Future**
  - Meir Kryger, MD, FRCPC
- **Keynote Lecture: Leadership’s Calling**
  - Henry Girvan, Chairman of the Board, SmithBucklin; Creator & Lead Facilitator: Leadership’s Calling
- **Distinguished Lecture: Advanced PAP Therapies**
  - Teofilo Lee-Chiong, MD
- **Closing Keynote: Goals are Dreams with Deadlines**
  - Mary Smith, Owner, Educational Leadership Consultants, and Ziglar Legacy Certified Trainer and Speaker
An AAST Video Blog Series

In this new video series on the AAST blog, top sleep-care professionals discuss the following topics:

• Primary Care Physician vs. Sleep Specialist — View here
• Why Is CPAP Adherence so Critical?
• Talking Technology With Patients
• The Need for Ongoing Education

Go to www.aastweb.org/blog to view the series.
TAMARA SELLMAN, RPSGT, CCSH, is an independent journalist specializing in patient education and activism. She curates the sleep health clearinghouse, SleepyHeadCENTRAL.com; publishes the quarterly sleep-themed literary magazine, Vitamin ZZZ; writes the “While You Were Sleeping” blog series for AAST; contributes to A2Zzz; gives presentations on sleep health for technologists and the general public; writes and produces the Journal Club (AAST) with Rich Rosenberg; provides blog content for private physician clients; and writes about sleep health on assignment.

What did you want to be when you grew up?
A writer. I was writing complete sentences in colored chalk on the preschool chalkboard. I loved it and knew it was how I would spend my life.

Why did you decide to become a sleep technologist?
I come from a family full of unusual sleep patterns: sleepwalking, sleep apnea, intense dreams, etc. I’ve always been fascinated with sleep. Many of my published short stories came about as dreams I co-opted as fiction. In 2010, I had a sleep study (NPSG and MSLT), and the experience was inspiring and fascinating (I had a great tech). I was diagnosed, at that time, with UARS and possible IH. In 2013, I was diagnosed with MS, which somewhat solved the mystery of the IH.

As a journalist (I got my BA from Columbia Chicago specializing in magazine editing and production), and as a patient, I became frustrated with the lack of information accessible to ordinary people about sleep health during that time. It was either the same old sanitized, generalized information or technical sleep research that most people wouldn’t be able to interpret on their own. At this time, I was also looking to specialize as a science writer and considering a return to college for some credentials to help with that endeavor. I discovered a PSG program in my area and applied in 2012, was accepted, and earned my CPSGT in June 2013 (and my RPSGT in August 2013). I almost went into electroneurodiagnostics.

Where was your first job in sleep technology?
If you count clinicals, I was a CPSGT at the sleep lab inside Harrison Hospital in Bremerton, Washington. My first lab job was at Kitsap Pulmonary and Sleep Lab in Poulsbo, Washington, where I was a night tech PRN.

Why did you become an AAST member?
I’m an activist/advocate by nature. I believe all professionals should belong to communities that support their need for networking, continuing education and awareness.

Who has had the greatest influence on your career?
Dr. William Dement’s work inspires me, as does Julie Flygare’s efforts in the hypersomnia community. Many sleep techs I encounter, who go beyond the basics of their job description, inspire me. Robyn Woidtke is one of those; she’s a bulldozer for change. If we want to make change in the world, we have to do more than just clock in and collect a paycheck. Also, I am especially fascinated with parasomnias and treasure the work of Dr. Carlos Schenck. Dr. Mary Carskadon is a major influence because she matched science with parenting and pediatrics, and was instrumental in putting women in sleep science on the map.

What is the most challenging part of your profession?
After working in the lab for about two years, I had to leave nights (thanks, MS). During that time, I earned my CCSH. The most challenging part is finding paid work in the field. There aren’t any day jobs for me where I live, and I’m not willing to move (my MS neuro is here, my kids are here, etc.) So I’ve basically had to carve out my occupation as a sleep science writer and advocate.

I launched my sleep health and news clearinghouse, SleepyHeadCENTRAL.com, in 2014, which celebrates four years this September, and that has been exhausting but totally worthwhile.

Since I gained my credentials, I’ve worked for several sleep doctors as a blogger, served as secretary on the Washington State Sleep Society, written for AAST (Journal Club, A2Zzz, blog), presented in a live webstream to an international audience on sleep and social media for N.O.S.E., and co-authored a textbook chapter with Rui deSousa on hypersomnia. I’ve also launched a literary magazine (Vitamin ZZZ) and am plodding toward a podcast launch for 2019 (ZZZCast).

Much of this work is unpaid and demanding. To make ends meet, I have two columns I write on MS, which help pay the bills.

What do you like most about your profession?
I get to write for pay (most of the time), I get to play in the world of sleep science, and I meet some of the most interesting people imaginable. I also feel like what I do makes a difference. Now that I’m also a CPAP user, I feel I can bring additional value to that ongoing dialog as well.

Any words of advice for people who are new to the profession?
Shift work disorder is a real thing and nobody is immune. Also, document everything and be vocal about your work. Half the battle in the field of sleep medicine is raising awareness about sleep health problems (drowsy driving, Start School Later, right to sleep) and educating patients. As techs, we have a great opportunity to truly educate our patients, given the long stretches of time we get to spend with them. Don’t waste it!
From the Chairs
By Laree Fordyce, RPSGT, RST, CCSH; Sherri Hanson, RPSGT, RST; Steven Lenik; and Roxanne Taylor, BA, RST, RPSGT

With 2018 in full swing, AAST committee chairs are hard at work executing on programs and initiatives that will set the stage for a banner year ahead. This issue, we asked our committee chairs for details on the current programs in which they are engaged and what our members can expect.

The Membership & Communications Committee is gearing up to prepare for Sleep Tech Appreciation Week starting in October. We’ll have many activities, prizes and suggestions for managers to show their appreciation to staff.

Sherri Hanson, RPSGT, RST
Membership & Communications Committee

The CEC Accreditation Committee continues to evaluate educational submissions with the goal of providing quality, valuable and relevant materials to enhance sleep technologists’ development. Our latest challenge is responding to the BRPT’s notice that “Beginning Sept. 1, 2018, the BRPT will no longer accept CRCE credits submitted for credential maintenance or recertification unless they are directly sleep related.” Since many sleep technologists are also respiratory therapists, they may wish to get education credits from respiratory courses that are also applicable to their sleep credential(s). In order to provide this in the future, educators may need to apply for sleep CECs in addition to respiratory CRCEs for the same course. The CEC Accreditation Committee will be tasked with assuring such courses are applicable to our field.

Steven Lenik
CEC Accreditation Committee

The Program Committee is excited that the 2018 Annual Meeting is finally here! We have an outstanding meeting planned, including keynotes and distinguished lectures on leadership from Henry Givray; goal setting from Mary Smith; the past, present and future of sleep medicine from Meir Kryger, MD, FRCPC; and advanced PAP therapies from Teofilo Lee-Chiong, MD. We hope to see you in Indianapolis!

Laree Fordyce, CCSH, RPSGT, RST
Program Committee

We have finished our End-Tidal CO2 Monitoring Technical Guideline and are sending it to the board for review. In addition, we are diligently working and finishing up the Transcutaneous Monitoring Technical Guideline in order to have it ready for the board’s review by the end of the summer. Once these are complete and approved, we will create core competencies for each of these guidelines.

Roxanne Taylor, BA, RST, RPSGT
Standards & Guidelines Committee
AAST Attends HOSA's 41st Annual International Leadership Conference

AAST sponsored HOSA's 41st annual International Leadership Conference, June 27-30, 2018, in Dallas, Texas as an exhibitor. Along with the BRPT, this was AAST's third year positioning the importance of sleep wellness and providing information on the sleep technologist career path.

HOSA—Future Health Professionals, the largest international organization for middle school, high school and postsecondary/collegiate students with an interest in the health professions, held this year's gathering of future health professionals in Dallas. Over 10,000 health science students, advisers, government and private sector leaders, judges, families and guests gathered to compete, learn, network and celebrate HOSA's annual conference with members from across the United States, Canada, Mexico and American Samoa.

HOSA's purpose is to develop leadership and technical competencies through a program of motivation, awareness and recognition, which is an integral part of the instructional program. This student-led organization provides opportunities for students to practice and refine their academic, technical, leadership and teamwork skills to achieve seamless transition from education to careers.

This year, Vice Admiral Jerome M. Adams, MD, MPH, U.S. surgeon general, provided the opening remarks. Adams' motto as surgeon general is “better health through better partnerships.” He spoke on his commitment to maintain strong relationships with the public health community and forging new partnerships with nontraditional partners, including business and law enforcement. He discussed the importance of wellness and the commitment to take care of ourselves and community (and, yes, sleep was a big part of that message!). His closing remarks were for these students to get out to the community and remember the importance of advocacy, perseverance and staying grounded. It was a powerful and motivational message.

AAST continues to promote the sleep technology profession as a unique and distinct allied health profession as well as support the scope of practice of sleep technologists, which places them in sleep centers, laboratories for sleep related breathing disorders, durable medical equipment (DME) settings, academic and industry research settings, home environments and non-facility-based settings under the direction of the sleep specialist. This meeting also allowed us to promote the importance of sleep hygiene.
Effective Aug. 1, 2018, the Centers for Medicare and Medicaid (CMS) Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS) clarified payment rules for claims for Healthcare Common Procedure Coding System (HCPCS) Code A9279: Monitoring feature/device, standalone or integrated, includes all accessories, components and electronics, not otherwise classified.

The code has been classified as statutorily non-covered. This announcement was made July 11, 2018, with a Future Local Coverage Article A52467: Positive Airway Pressure (PAP) Devices for the Treatment of Obstructive Sleep Apnea – Policy Article (A52467) from Medicare local carriers CGS Administrators, LLC DME MAC J-B; J-C; and Noridian Health Care Solutions, LLC DME MAC J-A and J-D.

This means that this service is statutorily excluded or does not meet the definition of any Medicare benefit. In other words, this is a service that is never covered by the plan and the plan’s evidence of coverage (EOC) document that is provided to the member is clear that the service or item is not covered.

CGS came out with a correct coding reminder on Nov. 15, 2013, that outlined the correct use of this code; this reminder also listed that claims are denied as statutorily noncovered. If a Medicare beneficiary has been notified of this non-covered code and there is a voluntary advance beneficiary notification (ABN) of non-coverage on file for this service, the provider may bill the Medicare beneficiary directly for remote monitoring devices. For complete instructions on using an ABN, refer to the CMS Internet-Only Manual, Pub. 100-04, Medicare Claims Processing Manual, Chapter 30, §50. Instructions are also available on the CMS Beneficiary Notice Initiative web page.

Article vs. LCD?

A local coverage policy may consist of two separate though closely related documents: the local coverage determination (LCD) and an associated article. The LCD only contains reasonable and necessary language. Any non-reasonable and necessary language a Medicare contractor wishes to communicate to providers may be provided through the article. At the end of an LCD that has an associated article, there will be a link to the related article and vice versa.
The AAST Learning Center is accessible 24/7 and provides you with on-demand videos, advanced learning modules that you can start and stop on your schedule, conference recordings and more!

Discover relevant educational content by searching by content type or topic area and access the Case of the Month, Journal Club and A₂Zzz CECs all through the AAST Learning Center.

Get started by checking out the latest offerings, including the AAST Fall Course modules.