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AAST THANKS ITS PRESTIGE PARTNERS

Here Comes Winter!

By Rita Brooks, MEd, RPSGT, REEG/EPT, FAAST

As we move toward winter, remember to complete your continuing education credits (CECs) for the year to maintain your credentials. Winter is often a good time to stay in, stay warm and work on expanding your horizons. This edition of *A₂Zzz* focuses on sleep coaching, a relatively new area that many experienced sleep technologists are exploring, particularly those who have taken the step toward a more clinical role and attained the Certification in Clinical Sleep Health (CCSH) credential. As you will see in this issue, sleep coaching is another avenue in which to utilize this credential and to work directly with patients experiencing a variety of sleep issues to improve their health and well-being by assisting them to improve their sleep.

Cognitive behavioral therapy for insomnia (CBT-I) is moving into the artificial intelligence (AI) realm, an exciting development for those suffering from this disorder. Several apps are now available; however, an app alone will not be successful — optimally a sleep educator or coach should guide the use of these therapies. The Sleepcare app provides relaxation exercises, sleep restriction exercises and sleep hygiene education. There is also the SleepBot app that focuses on improving sleep hygiene by asking users simple questions to determine what may be causing their poor sleep through text messages.

Patients using these therapies may benefit from sleep education and coaching in conjunction with these apps.

Coaching for wellness involves creating a care plan with your patient that establishes specific, measurable, achievable, relevant and time-bound (SMART) goals related to their sleep issue, whether it be adhering to therapy for sleep apnea or managing narcolepsy or insomnia. The key is to co-create a plan that the patient wants to and will follow. The clinical sleep health educator interested in moving into a coaching role will benefit from gaining education from the wellness coaching perspective. Jacinta Jiménez, PsyD, with BetterUp, provides her perspective on coaching in a digital environment and the key skills needed to be a successful coach. In being a successful coach, professionalism, ethics and patient privacy are important, and strong coaches will assess and assist to manage social, environmental, cultural and other factors affecting their patients — and personally focus on growing their knowledge and skills.

As outlined in an interview with four practicing CCSH-certified sleep coaches, there are many roles for a sleep coach. As sleep technologists, our first thought is compliance coaching — assisting patients to understand their sleep apnea diagnosis, the health effects and the benefits of therapy. Others focus on sleep health and

wellness coaching, in addition to sleep skills coaching, working with individuals and families or providing executive coaching to improve staff sleep and overall stress and energy levels. Some provide coaching in a very specific realm, such as sports, providing education for athletes, sports coaches and certified athletic trainers about the impact of sleep on recovery, performance and mental health. There are many arenas in which the skilled wellness coach with a sleep background can excel. What is your interest? Where do you want to go with your CCSH?

For those who are looking to refocus and expand their role, the AAST's CCSH Designated Education Program is an approved pathway for those seeking the CCSH credential. Attaining this credential is an excellent way to expand your horizons in the sleep field and move into a broader patient-focused role. The recently released Fundamentals of Virtual Patient Monitoring learning modules are another resource for those seeking education on working virtually with patients to manage their therapy and address issues. Much education and patient management is now being provided virtually and I encourage all readers to visit the Learning Center on the AAST website to review offerings targeted at these focus areas, as well as the other educational programs and resources that are available.

Enjoy the winter holidays and remember to renew your AAST membership. It comes with a variety of excellent educational offerings and free CECs that will assist you in attaining, maintaining and recertifying your credentials.

Sleep well!

Rita

> *Attaining this credential is an excellent way to expand your horizons in the sleep field and move into a broader patient-focused role.*

President's Message

Get Ready to Ring in 2023

By Laree J. Fordyce, RPSGT, RST, CCRP, CCSH, FAAST

It seems like only yesterday we were kicking off 2022, but as I sit down to write this message, the days are quickly passing by and the New Year is knocking on the door. As we look to finish out 2022 on a strong note, I'd like to touch on a few important reminders for members and share a sneak peek at what's ahead in 2023.

Renew! Renew! Renew!

The 2023 AAST membership renewals season is upon us. If you are a current member and have not yet renewed for 2023, you must do so by Dec. 31, 2022, to maintain access to all of your member benefits, including member-only, free continuing education credits (CECs). Be sure to encourage your fellow sleep colleagues to also renew or if they are not a member of AAST, encourage them to join. Have questions about AAST membership? Visit our Membership page on the website or contact AAST headquarters staff at info@aastweb.org.

New Things Coming Soon

I'm looking forward to the New Year for many reasons but I'm particularly excited to see multiple initiatives that the AAST Board of Directors and staff have been working on this past year.

In early 2023, we will be launching a new website and Learning Center. Users can expect refreshed looks to both, as well as easy-to-use navigations and improved functionality. Additionally, the AAST blog will be transitioning to a content hub that will not only house articles, but also A_2Zzz content. That's right! You'll be able to access the latest articles and A_2Zzz issue, as well as magazine archives, all in one place.

AAST will also be launching new education products in 2023. We've been hard at work developing a home sleep apnea testing (HSAT) modules series as well as an Adult Scoring rules module series that aligns with the American Academy of Sleep Medicine's (AASM) scoring criteria. Be sure to keep an eye out for emails and social media posts about these two new offerings — you won't want to miss them!

A Round of Applause

In case you missed it, I recently announced the 2022 AAST award winners and fellow class during the annual business meeting in November. Get to know the award winners and fellows in this video and, if you were not able to attend the 2022 AAST Annual Business Meeting, a recording of it can be viewed here.

Additionally, I'd like to congratulate those that were recently elected to the 2022-2023 AAST Board of Directors: Emerson Kerr (President-Elect), David F. Wolfe (Secretary), Lisa Endee (Director), Sarah Brennecka (Director) and Renae Davis (Director).

Workforce Summit Paper Now Available

As I've mentioned in previous messages, the AAST Board of Directors hosted the AAST Workforce Summit in April of this year and has been working on a paper highlighting the collectively agreed upon focus areas in which next steps are needed to position the sleep profession as a leader in the health care space. The paper is now available for viewing and can be found at the end of this issue of A_2Zzz.

I wish you and yours a very happy holiday season and a safe and healthy start to the New Year. Here's looking to 2023!

Instructions for Earning Credit

AAST members who read *A₂Zzz* and claim their credits online by the deadline can earn 2.00 AAST Continuing Education Credits (CECs) per issue, for up to 8.00 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 **March 31, 2023**. 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.

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 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

You must go online to claim your CECs by the deadline of **March 31, 2023**.

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

Artificial Intelligence and Sleep Coaching

Objective: Readers will review research on conversational artificial intelligence (AI) and gain a working knowledge of AI in sleep coaching for patients with insomnia.

Coach vs. Coach: The Many Roles of a CCSH Professional

Objective: Readers will hear from four sleep professionals and develop a working knowledge of how the CCSH credential can be utilized in different types of coaching.

The Core of Coaching: A Q&A With Jacinta Jiménez

Objective: Readers will review tips and advice from a board-certified leadership coach and gain a working knowledge of what the general public is looking for in a coach and how to develop one's own coaching skills.

Compliance Corner: HCPCS and CPT Codes for PAP

Objective: Readers will understand the importance of knowing Medicare coverage ahead of providing services or items to patients and gain a working knowledge of what Medicare expects from health care providers when it comes to coverage requirements to avoid payment denial.

ARTIFICIAL INTELLIGENCE

and Sleep Coaching

By Regina Patrick, RPSGT, RST

Most research on the use of artificial intelligence (AI) in the sleep field has focused on its use in the diagnosis of obstructive sleep apnea (OSA) and in polysomnography scoring. However, in recent years, the use of AI — in particular, conversational AI — for sleep coaching people with insomnia has been of great interest, and recent findings have been encouraging.

Insomnia is the inability to initiate sleep at the desired time or maintain sleep during a sleep period. It is often the result of another cause such as stress, medication effects, poor sleep hygiene (e.g., irregular sleep/wake times), mental disorders (e.g., depression, bipolar disorder), physical problems (e.g., neurological problem such as Alzheimer's disease), physical discomfort (e.g., pain, pregnancy) and certain sleep disorders (e.g., non-24-hour sleep-wake rhythm disorder delayed/ advanced sleep phase syndrome). As a result of not being able to go to sleep at a desired time or being unable to maintain sleep, people with insomnia may struggle with daytime sleepiness and other consequences of insufficient sleep such as difficulty concentrating, depression or anxiety.

Cognitive behavioral therapy for insomnia (CBT-I) is often the most effective treatment for insomnia.

It is usually delivered face-to-face by therapists trained in behavioral sleep medicine. CBT-I consists of stimulus control (i.e., avoiding stimulatory factors such as ingesting caffeine before bedtime), sleep restriction, sleep hygiene education (i.e., implementing behaviors that promote sleep), relaxation training and cognitive restructuring (i.e., reframing inaccurate thoughts about sleep and behaviors that contribute to insomnia). These sessions typically take place weekly in one-hour, face-to-face sessions over a period of six to eight weeks.

Drawbacks of CBT-I treatment are its high cost and an insufficient number of trained CBT-I therapists available. To address these issues, scientists have worked to make the therapy

In the treated group, insomnia severity decreased substantially but it did not change in the control group.

more affordable and easily accessible by automating certain aspects of CBT-I treatment such as sleep coaching, which involves the use of various nonpharmacological techniques to improve sleep including sleep education and sleep hygiene, cognitive behavioral therapy and relaxation.[1]
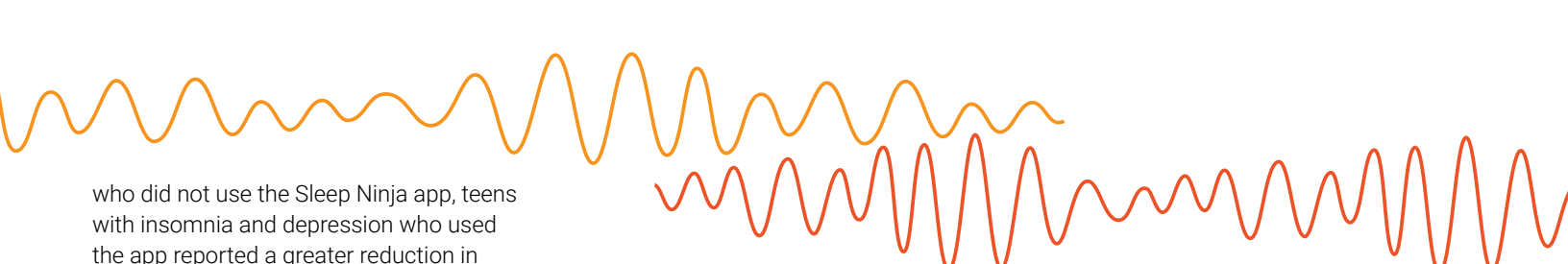
In 2009, Ritterband et al.[2] were the first team to develop an algorithm (i.e., a specialized program) that could provide users personalized recommendations for sleep restriction. The program presented information by means of text, graphics, animations, vignettes, quizzes and brief games. It sent users automated email reminders to complete the steps of a treatment, enter data in a sleep diary and implement strategies learned in a previous step of the treatment. All patients involved in the study were diagnosed with insomnia. One group of patients underwent the CBT-I treatment and a second group of patients did not (they later received the therapy). In the treated group, insomnia severity decreased substantially but it did not change in the control group. Wake after sleep onset decreased and sleep efficiency increased in the treatment group, compared to the control group. At six months, improvements were maintained in the treatment group. Ritterband proposed that the internet could be an effective and inexpensive tool to deliver CBT-I to people with insomnia.

Horsch et al.[3] conducted a randomized controlled trial of a fully automated CBT-I mobile phone app called Sleepcare. Participants in their study had mild insomnia and were randomly assigned to immediately undergo CBT-I with the app for six to seven weeks (depending on compliance) or no treatment during this period (i.e., the control condition). Features of the app were a sleep diary, a relaxation exercise (which involved a progressive muscle relaxation exercise over a period of one to 16 minutes, the duration of which the participant chose), sleep restriction exercise and sleep hygiene and education (e.g., sleep hygiene and education information was presented as tips and facts in text format such as "Use your bedroom only for sleeping, not for working.").

The treatment group had improved insomnia severity and sleep efficiency, which were maintained at the three-month follow-up. Based on this finding, Horst proposed that Sleepcare is applicable for insomnia treatment. However, the app was used by people with mild apnea. Therefore, whether the same results would occur for people with more severe apnea can not be concluded from their findings.

Automated CBT-I has also shown good results in teens. In 2017, Werner-Seidler and colleagues[4] developed a smartphone app called the Sleep Ninja to deliver CBT-I to teens (12−16 years old). They had designed the program, based on input from teens, to include elements of game playing and have engaging aesthetics. In a later study, Werner-Seidler and colleagues[5] demonstrated that, compared to teens with insomnia and depression

who did not use the Sleep Ninja app, teens with insomnia and depression who used the app reported a greater reduction in insomnia symptoms at six weeks and at 14 weeks after initiating the program and they had a greater reduction in depression symptoms at six weeks. No adverse events were reported with the app.

However, a drawback of AI-based CBT-I programs has been that patients can answer questions delivered by the program about their sleep (e.g., sleep/wake times) or receive information by the program regarding sleep education or sleep hygiene, etc., but can't report any specific concerns or difficulties in complying with the treatment as they could in a face-to-face session. To address this issue, Shim et al.[6] in 2021 described their findings of a pilot study in which they used a conversational AI program[7] that, based on free text responses by users, distinguished between causes of insomnia (e.g., caffeine consumption before bedtime), issues related to insomnia (e.g., trouble waking up) and impact of insomnia (e.g., effect on performance). They found that their program performed best in detecting causes of insomnia compared to its performance in detecting insomnia-related issues or the impact of sleep problems. Shim continues to work on improving the program and hopes to develop a more accurate conversational feature that will allow users to convey concerns about

Rick and colleagues designed a chatbot called SleepBot to improve sleep hygiene.

their sleep, as they would if they were in a face-to-face session, and improve the program's analytical automated feature to aid decision-making.

Rick and colleagues[8] designed a chatbot called SleepBot to improve sleep hygiene. A chatbot is a program that takes conversational (i.e., natural language) input and provides a conversational output in real time. Common examples of chatbot technology are online customer support live chats or virtual assistants such as Siri (Apple Corporation, Cupertino, California) and Alexa (Amazon, Inc., Seattle, Washington).

SleepBot asks users simple questions to elicit answers regarding problems that may be contributing to poor sleep and aid users in improving sleep hygiene. SleepBot uses a text messaging-based interaction that is similar to talking to a human. The question flow is responsive to each answer the user provides to the previous question, as shown in the example below.

> **SleepBot:** Good morning! How did you sleep?
>
> **User:** Good.
>
> **SleepBot:** I'm glad that you got a good night's rest!

If users state that they slept well, SleepBot asks no questions about sleep disturbances. If users answer they woke up in the middle of the night, SleepBot asks questions about quantity and duration of the disturbance. The SleepBot program initially had problems understanding free text responses from users. Rick later improved the program by refining its conversation flow capability and the language used.

In 2020, the United States Food and Drug Administration (FDA) (Silver Spring, Maryland) approved the first prescription digital therapeutics tool, called Somryst, for treating chronic insomnia.[9] Somryst (Pear Therapeutics, Inc., Boston, Massachusetts) delivers CBT-I via a mobile application. Somryst is designed to help treat chronic insomnia and depression in adults 22 years and older.

Somryst utilizes sleep restriction and sleep consolidation, stimulus control and personalized cognitive restructuring.[10] For six to eight weeks, patients undergo a series of six self-guided and interactive treatment modules, which replace the traditional, weekly, face-to-face CBT-I sessions. Somryst also includes a daily sleep diary, which collects data regarding perceived insomnia severity, and screens for daytime impairment of mood. The sleep diary data are entered into an algorithm so sleep restriction therapy can be tailored uniquely for users throughout the prescription period. The program also provides personalized cognitive restructuring, based on the individual's beliefs and attitudes about sleep.

Other benefits are that patients can access the treatment on their own schedule; the therapy can be personalized, based on a patient's responses...

CBT-I technology improves, a greater number of patients who struggle with insomnia could be treated and patients who otherwise would have difficulty in accessing treatment could be treated. ☾

AI-based CBT-I treatment may be an ideal option for patients when face-to-face therapy is not possible, or for patients who otherwise would avoid CBT-I because of safety reasons (e.g., to avoid exposure to COVID-19) or the stigma associated with psychological therapy. Other benefits are that patients can access the treatment on their own schedule; the therapy can be personalized, based on a patient's responses; clinicians can easily monitor a patient's progress; and it eliminates geographic and logistical barriers (e.g., transportation) to treatment access. However, the technology has drawbacks. Despite the current widespread use of smartphones and tablets, low-income patients may not have access to these digital devices or they may have access to older devices that can not be used with an AI-based CBT-I program, or a digital device that has an operating system incompatible with the operating system used by a program. For now, scientists continue working on these issues and on improving AI programs used in CBT-I. As AI-based

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A Technologist's Guide to Performing Sleep Studies

Designed as an introductory resource, the *Technologist's Guide to Performing Sleep Studies* provides step-by-step instructions for collecting sleep study data from patients. It includes sections that cover suggestions for putting the patient at ease, reviewing the patient's symptoms and medications, attaching the sensors, preparing to record, biological calibrations, artifact detection and correction, and documentation.

Purchase *A Technologist's Guide to Performing Sleep Studies* eBook in the AAST Learning Center

AAST

Coach vs. Coach: The Many Roles of a CCSH Professional

By Bethany Larrañaga

Featuring Brendan Duffy, RPSGT, RST, CCSH; Geoff Eade, RPSGT, CCSH; Amy Korn-Reavis, RRT, RPSGT, CCSH; and Nicole Sondermann, RPSGT, CCSH

Sleep coaching is a rapidly expanding field, and Certified Clinical Sleep Health (CCSH) professionals can apply their skills to a wide variety of client bases. We asked four sleep coaches with different specializations to dive into their personal approaches to coaching and sleep education, and share how they utilize their CCSH in their patients' care.

What is your type of coaching?

Brendan Duffy (BD): I have focused on educating athletes, sports coaches and certified athletic trainers about the impact of sleep on recovery, performance and mental health. I work with clients at high school, college and professional levels.

Geoff Eade (GE): I work in durable medical equipment (DME) and compliance coaching.

Amy Korn-Reavis (AKR): I am an independent coach, working with the largest and fastest growing executive coaching company to improve their staff's sleep and overall stress and energy levels. I do this by meeting with them about every two weeks, one on one, to help them create the changes they need using incremental, but transformational, changes.

Nicole Sondermann (NS): I provide sleep health and wellness coaching, in addition to sleep skills coaching. I work with individuals and families.

What is the most effective technique you've used?

BD: The most effective technique is to understand what motivates athletes and sports coaches and to educate them about how sleep impacts their goals and desires.

GE: I like to start at the beginning to ensure the patient understands why they have to wear a mask. After discussing these reasons, I review basic mask-fit techniques, walk them through how the device works and give tips on dealing with challenges they may encounter.

AKR: There are several techniques that work very well in this role. I use motivational interviewing to see how ready clients are to move forward with change and understand where they are in their desire to change. I also do a lot of co-creative coaching, where we create goals for the client together and use proven techniques to achieve them. I am then there for support and accountability. These techniques are part of the overall standards used for coaching via the

International Coaching Federation (ICF) and the National Board for Health and Wellness Coaching (NBHWC). However, if there was one thing that I have found that works best, it would be to have my clients journal not just statistics, but their stress, frustrations and anything else they may be ruminating on.

NS: I incorporate a multitude of techniques in my coaching practice, with the most effective technique being motivational interviewing.

I aim to meet the client on their level of interest and motivation, with consideration as to why they are working with me. When I am working as a subcontractor for an employer or wellness company, I focus on the area their employer asks me to focus on, such as sleep and shiftwork. When I am working directly with a client, I focus on what the client wants. Clients referred to me by doctors are commonly interested in focusing on adapting to positive airway pressure (PAP) for therapy compliance and sleep-related behavioral coaching.

What are challenges you face in the audience you work with?

BD: The major challenge would be a lack of knowledge, belief or understanding as to how sleep
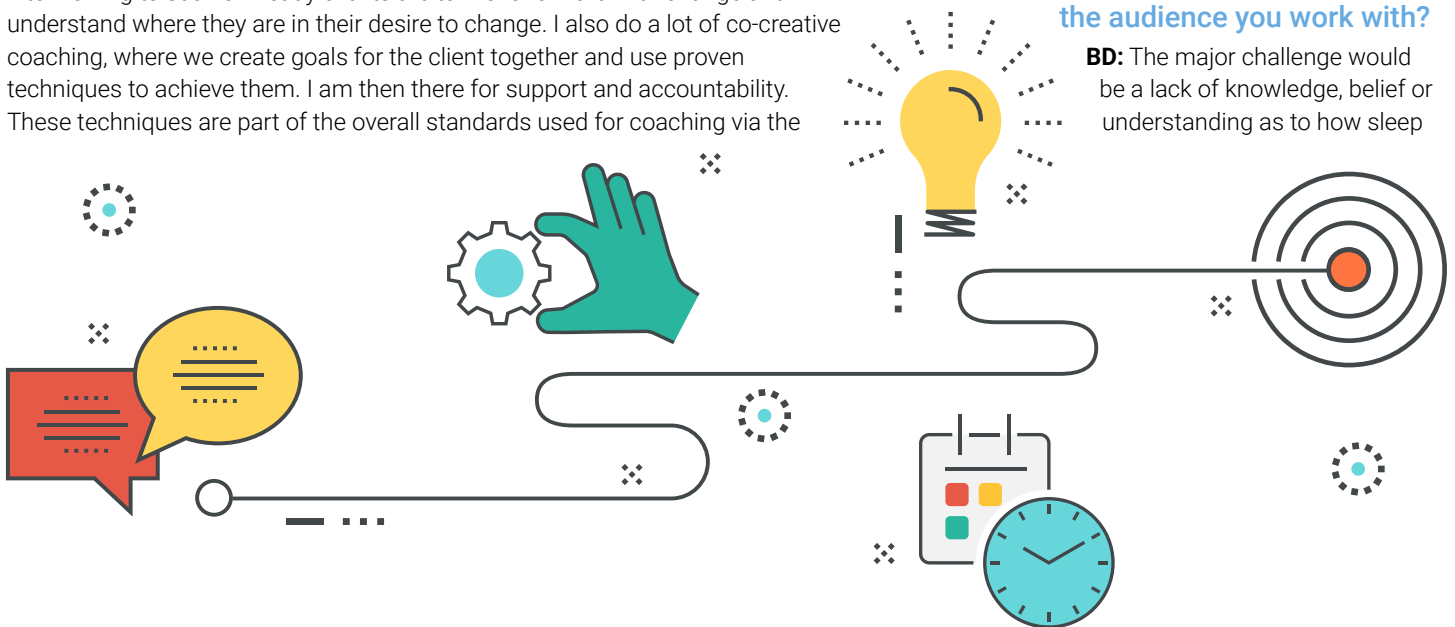
fuels, prepares and repairs athletes both mentally and physically. Sleep is a challenge for many athletes due to the very demanding schedules that they are faced with — especially college student athletes.

GE: The biggest challenge I face is the number of patients that don't seem to understand the "what and why" about their situation. Patients need to have buy-in to the therapy process and understand its importance. I find that once they are aware of how serious their sleep disorder is, they typically will be more compliant.

AKR: Many of my clients do not have a strong reason for change. We need to spend time finding their "why" so we can help them give up habits like watching television in bed, scrolling on their phone in bed or working right before going to sleep.

NS: When I work with multiple-home families, I find that creating and maintaining consistency in sleep routines for the children in each home is very challenging unless both sets of parents are committed to the system.

...if I approached coaching from the emotional 'why' for the change, people have more success.

What have you tried and it failed?

BD: I don't believe "fail" is the proper term as we truly never fail if we care — we learn and adjust. The adjustment I had to make is to coach the reality of clients' schedule, including mandated early wake-up times for practices. Some teams will not, or cannot, change the early start times due to multiple factors, which can cause sleep deprivation that builds over the sessions.

As a good sleep coach, we need to educate clients about our concerns surrounding early morning start times. We must help them strategize and manage the reality of those current early/late schedules. Of course, we hope that over time some sleep friendly adjustments will be made as they are able to do so in scheduling. That has been the welcome trend that I have seen over some seasons — they do make adjustments!

GE: I have tried many different chinstraps and they rarely work due to the air leaking through pursed lips.

AKR: I tried teaching clients about the science of sleep — what a circadian rhythm is, the science of why you need sleep — but found if I approached coaching from the emotional "why" for the change, people have more success.

NS: Coaching my close friends and family members has not proven to be the most successful, albeit not a complete failure. The more distant the relationship I have with a client, the more successful the coaching experience has been.

What continuing education has helped you become a successful coach?

BD: I believe we never stop learning and I think along with my CCSH certification, the many great webinars and helpful sleep medicine community members have been instrumental in helping me grow and learn on a daily basis.

GE: AAST has a significant amount of material to help someone become CCSH certified. Attending state and national sleep conferences is also advised — one can meet and consult with other CCSH technologists and sleep coaches.

AKR: I am always moving forward in my education as a coach. I have taken courses on helpful subjects such as basic coaching principles and positive psychology, and have also read and taken online courses on motivational interviewing, wellness coaching and change theory. I read at least two articles a day on something to do either with sleep health or coaching. Ultimately, it was the culmination of my knowledge from going back to school to get my MBA and my background as both a respiratory therapist and sleep technologist that has made it easier to coach.

NS: The CCSH certification prepared me for the nuances of coaching in sleep medicine and I highly recommend that certification to anyone interested in working in this specialty.

My graduate studies are in health education and promotion, and I find the coursework helps me gain a better understanding of the psychology and methodology of coaching.

I am currently enrolled in a coaching program at Catalyst Coaching, and I highly recommend that anyone interested in providing coaching services take a professional coaching course. It is important the coaching program is focused on health and wellness in addition to the business aspects of coaching.

What drives you to be a coach?

BD: I enjoy sleep education and sports, so it's about passion — and I believe that shows when I speak to teams. Coaching is a great opportunity to apply my knowledge to help others excel and become not just better athletes, but healthier and happier human beings! It's great to hear an athlete connect better sleep to better performance on the field, but it's even better to hear them say they are mentally in a better place as a person with better sleep.

GE: I enjoy helping people find rest, especially when they don't think they will be able to tolerate the mask and pressure.

AKR: Over the years, I can say that I've had so many strong people help me grow and become a better person. It was their inspiration that has helped me see what great field coaching is. As a coach, I not only get to do something I love (helping people), but I also get to return the favor those men and women shared with me.

NS: As a sleep technologist, I can educate and encourage a patient during the appointment, but the scope of my role does not allow me to offer continued support, encouragement or any other services the patient may ask for and/or benefit from. The service I provide as a clinician is valuable, but it is a one-and-done situation. Before I became a sleep health coach, I always felt like my actual responsibility to the patient was never done.

As a clinician, I provide education, tools and encouragement to a patient. As an educator, I provide information and knowledge about sleep, but it is generalized rather than individualized. As a sleep health coach, I work together with the patient/client as they work towards reaching sleep goals, identify and overcome obstacles and offer continual support as they implement new behaviors in their sleep routine. My role as a sleep health coach satisfies my desire to provide clients with additional supportive services to encourage healthier sleep, whether it be PAP compliance or balancing sleep/wakefulness on rotating shift work.

Giving someone the knowledge and tools to obtain healthy sleep is a gift that can last a lifetime. Empowering and encouraging a client to create a successful sleep routine is both rewarding and gratifying. All these facts and more drive me to do the work I do.

What advice do you have for others looking to get into coaching?

BD: Find a sleep "sub group" you are passionate about such as veterans, shift workers, corporate CEO's, rock bands, actors, musicians, air traffic controllers, cancer survivors, police or fire services, etc. Once you determine your target group, start researching what kinds of sleep issues that group would experience. Is it jetlag, disruptive rotating schedules, use of stimulants, boredom, multiple hotel stays or digital addictions? Once you have the needs of a specific group figured out, reach out and offer to provide education based on their specific sleep needs. Be a resource as to how they can manage their sleep better to perform better in their careers. Become the "expert" for that subgroup.

GE: Don't listen to the naysayers who deny the usefulness of the CCSH. There are many options in many industries where the CCSH provides employment opportunities, and I believe it is only the beginning.

AKR: I would suggest that anyone looking into coaching learn how to use a co-creative process to help understand what motivated your clients to seek help. I would also consider the clientele you really want to work with. Do you want to work with doctors, directly with clients or stay in the hospital? Each type of coaching has a different skill set that will help you achieve your goals.

NS: I highly recommend a sleep coach obtain the CCSH and take a professional coaching course from an accredited institution. There is a vast amount of sleep-related information on the internet, ranging from impressive to ridiculous. As sleep professionals, we can clear up many misperceptions and provide honest, reliable and credible information to our clients. I also recommend starting a blog, a website or vlog to start disseminating information.

What are your goals as a coach?

BD: My goals are the same as the athletes I coach — improve every day! I will continue to study my craft and help others with the most current and proven methods available. Sleep is such a dynamic field,

Empowering and encouraging a client to create a successful sleep routine is both rewarding and gratifying.

and it requires constant learning to stay on top of the almost daily advances.

GE: I want to continue helping people find rest. I enjoy learning new ideas and tactics that will help. I also want to help more people become a CCSH professional, and be involved with getting the CCSH approved for billing for their services.

AKR: My initial goal was to help as many people as I could get a good night's sleep. My additional goal is to help other technologists who want to move into the coaching field learn the extra skills they will need.

NS: The field of sleep medicine is constantly changing and evolving. I intend to continue my academic studies in coaching, education and health promotion. Coaching requires a shift in mindset, and a great deal of practice. My goal is to continue mastering the fine art of coaching to empower people to sleep better.

How can coaches apply their knowledge outside of the sleep lab?

BD: Anywhere we deal with people, we have a chance to educate and improve a person's life by creating awareness of how sleep impacts all they do and all they become. As I mentioned before, coaches can work with a target audience, or they can also volunteer with various groups where their knowledge can help tremendously. I work with the national non-profit Start School Later as their athletic liaison, and I am proud of all they have

The need for sleep health education is more necessary now than ever.

done for high school students through their efforts to promote healthy teen sleep. I am sure it has saved many lives. I am happy to assist in this noble mission and look forward to a day in the near future when all U.S. schools have healthier start times. I recommend others take that first step as every exciting journey starts with one step. It has been a lot of fun for me on my journey as a sports sleep coach — I've met so many wonderful athletes and made some great lifetime friends.

GE: A sleep coach can also work with health care providers, hospital/clinic organizations, athletes, professionals, trainers, public health awareness professionals and groups and any other areas of life where finding rest can be beneficial. The market for sleep is the human body. Go find someone and help them find rest!

AKR: If you are looking to move outside the lab, you need to understand what your role as a coach will be. You can coach groups of new PAP users to help them with compliance, or you might do what I did, which was moving to a direct to client approach. In that case, you will most likely need a college degree. It would also be helpful to consider taking classes in coaching, such as on wellness or life coaching education.

NS: Start by offering community awareness educational events — future clients will be in the audience.

Sleep technologists have the knowledge and skill set to provide sleep health education to the public. As technology advances, skills obtained in the sleep center can be delivered directly to the public through online coaching and educational outreach. The need for sleep health education is more necessary now than ever and technologists are primed to meet the public health demand for sleep health coaching. 🌙

BETHANY LARRAÑAGA *is the associate editor for A$_2$Zzz. Have an article idea? Email her at* *blarranaga@ aastweb.org*.

The Core of Coaching: A Q&A With Jacinta Jiménez, PsyD

By Monica Roselli

Jacinta Jiménez, PsyD, is an award-winning psychologist and board-certified leadership coach, and for 15+ years has been dedicated to the betterment of people through innovative programming stemming from the latest research in positive psychology, neuroscience and motivational psychology. She is an accomplished author and was a key team member in the creation and implementation of the Anger and Irritability Management System, a mobile app produced by the Mobile Behavior Design Lab and the National Center for PTSD. Currently, she serves as the vice president of Coaching Innovation at BetterUp, a virtual coaching platform dedicated to helping people live with greater clarity, purpose and passion.

AAST Managing Editor Monica Roselli recently spoke with Jiménez on what people are looking for in a coach, how a coach can be successful and more. Hear Jiménez's thoughts on what the world of coaching looks like today and where she believes the future of the profession is heading in this Q&A.

What are people looking for in a coach? Is there anything surprising you're seeing people ask for in their search for a coach?

In essence, coaching is about partnering with another human to address mindsets, skills and behaviors toward maximizing one's personal and professional potential. I think of it as an interpersonal conduit for cognitive and behavioral change.

We see people asking their coaches about topics that address "soft" skill development such as navigating difficult conversations, stressful situations, adjusting to expanded roles, making an important or difficult decision and setting boundaries. Ironically, these are anything but soft skills. They are human skills and they're hard. Coaching is a powerful way to personalize this skill development.

At BetterUp, we recognize that skill development does not happen in isolation — that in order to flourish and thrive as people and professionals, we need to invest in Whole Person™ development. Accordingly, we take an integrative approach to coaching and offer specialty coaching in important areas that support and accelerate "soft" skill development, such as sleep, nutrition, communication, parenting, diversity and inclusion, and grief coaching.

> *Being able to build an interpersonal relationship of trust and authenticity with a client is foundational to successful outcomes in coaching.*

How can one become a successful coach? What elements and/or skills do you think coaches should be trained on/possess in order to be successful? What advice do you have for someone looking to become a coach?

In our digital world of coaching, successful coaches are the ones who maintain high standards for professionalism, ethics and member privacy. Being able to build an interpersonal relationship of trust and authenticity with a client is foundational to successful outcomes in coaching. Additionally, strong coaches are the ones who are able to zoom out and conceptualize their client from a whole person perspective by working to understand the social, environmental, cultural and systemic factors that are at play in this individual's life. Finally, in today's ever-changing world of work, coaches need to possess a growth mindset and have a desire to constantly grow in their self-awareness, knowledge and skills. For example, at my coaching platform, I'm working on delving into furthering the science of coaching to deepen the global understanding of coaching effectiveness, which will lead to new insights for coaches to advance their ability to help individuals make positive cognitive and behavioral changes.

I think everyone could benefit from learning core coaching skills — even if you don't become an official coach. Adopting a coaching mindset and building a coaching skill set will allow you to unlock better communication, stronger relationships and high performance in others. This lends itself to creating a culture of coaching within your organization, in which everyone feels

Reimagining the future of coaching requires the field to have the leadership to empower it to adapt to an ever-changing world.

comfortable giving and receiving feedback, and feels psychologically safe to contribute to important conversations.

What advice do you have for someone looking to build confidence in their coaching?

For someone who is looking to build confidence in their coaching, I would remind them that at the end of the day, coaching is deeply human. Effective coaching requires listening, humility and curiosity. While there are very important frameworks, tools and strategies in coaching, continuously working to master the human element (i.e., core coaching skills) cannot be underestimated or underemphasized. The good news about this? We all have these human skills in us — we just need to practice, get feedback, refine and practice again. In time, with effort, humility and curiosity, your skill set will grow. In addition, the skills, mindsets and concepts you'll learn as a coach will help you to unlock new ways of thinking about and understanding yourself, new ways of thinking about and relating to others and new ways of approaching people and situations — it is a win all around.

For new coaches, what tips do you have for becoming receptive to feedback?

In my opinion, feedback is the ultimate gift for skill improvement and development as a coach — that's why when we undergo coach training, supervision is a significant part of the experience. The biggest piece of advice I can give to coaches who are learning to get more comfortable with feedback is to choose curiosity over concern. While in the moment feedback can feel like we are doing something concerning, when we look at it through a

lens of curiosity and learning, feedback can be a great way to help us grow our impact and effectiveness as a coach.

Anything else you'd like to share?

This is an exciting and critical time in the coaching industry. As the demand for coaching increases in proportion to the suffering and polarization in the world, we feel a deep sense of responsibility to step forward as the first and industry leader in digital coaching to uphold the credibility of the craft. In other words, with increased visibility comes greater responsibility. Given that this issue is in the world spotlight, reimagining the future of coaching requires the field to have the leadership to empower it to adapt to an ever-changing world.

At the end of the day, coaching is deeply human.

This inflection point has presented an opportunity to reflect and ask ourselves an important coaching question: How might we rise to this moment and envision a future in which the integrity and credibility of the practice and profession of coaching is not only upheld but improved?

Accordingly, we're deploying initiatives that will help our coaches with training on ethics in digital coaching, learning opportunities to elevate their craft based on science, research initiatives to help them foster their own personal resilience and new technology innovations to help them make an even bigger impact on their members. 🌙

Tips for Being More Receptive to Feedback As a New Coach

Set professional goals. Having goals can help you regularly check progress and have conversations surrounding your professional development.

Ask questions. It is important to try and get a solid understanding of what exactly someone is trying to say in order to better address the issue. It's okay to ask the person giving you feedback if you can have time to process the information and connect during another meeting.

Analyze patterns and tendencies. Work to recognize some behaviors that you may be frequently getting feedback on (both positive, negative and neutral). Write them down and develop a strategy to address them.

MONICA ROSELLI *is the managing editor of A₂Zzz. Have a cool story to share? Email her at mroselli@ aastweb.org.*

AAST
Advanced Sleep Titration eWorkbook

Designed as a complimentary resource to the AAST Advanced Sleep Titration e-Learning Course, the eWorkbook covers the same five topical areas as the online course:

- Anatomy and Physiology
- CPAP and BPAP Titration Guidelines
- Adaptive Servo Ventilation (ASV)
- Noninvasive Positive Pressure Ventilation (NPPV)
- Average Volume Assured Pressure Support Auto EPAP (AVAPS-AE)

Purchase the *Advanced Sleep Titration eWorkbook* in the AAST Learning Center

AAST

An Impactful Combination: Being a Wellness Coach and Clinical Sleep Health Educator

By Amy Korn-Reavis, RRT, RPSGT, CCSH

Disclaimer: This article is a high-level overview of Amy Korn-Reavis' observations in being both a health and wellness coach and clinical sleep health educator. The views and opinions expressed in this article do not reflect those of AAST.

When I became a sleep coach, I thought that the knowledge I'd gain from becoming a Certified Clinical Sleep Health (CCSH) certificant would be enough to guide me in my work with my clients. The certification, at its core, is about educating patients and holding them accountable. But I soon discovered this is not true at all — there is so much more to coaching than knowing about sleep.

When I sat for my CCSH certification, the focus for me was on understanding sleep and continuous positive airway pressure (CPAP) compliance, and how to communicate about treatment with one's patients. The test itself encompasses care for several chronic diseases, including sleep issues, hypertension, obesity, cardiac issues and Type 2 diabetes. It also requires an understanding of different types of coaching models, change theory and motivational interviewing.

While the CCSH certification is a great base for sleep coaching, there are many other factors to successfully coaching a patient/client. This is where I find being a wellness coach in addition to a clinical sleep health educator is a valuable asset.

As a wellness coach, one needs to know not only how to create a care plan with your client/patient, similar to that of a CCSH coach, but also how to successfully help a client/patient establish specific, measureable, achievable, relevant and time-bound (SMART) goals; and guide them in finding their own accountability, just to name a few. All of this requires a stronger understanding of how to co-create a plan with your client/patient and having them create a system they want to and will follow. Without having the background knowledge and education from both the wellness coach perspective

I began to understand that education is only a very small part of what coaching truly is.

It's important to keep in mind that coaching is so much more than just being an educator. It is a partnership between you and the client/patient in creating a foundation that will allow them to keep moving forward, even after you cease working with them. 🌙

and the clinical sleep health educator perspective, I don't think the care plans I've assisted my clients/patients with would be as successful or personal as they are.

As I was taking an education course to prepare for the CCSH exam, I began to understand that education is only a very small part of what coaching truly is. As we, the sleep community as a whole, move more into coaching as a profession, we need to understand where the client/patient is at related to their ability to create new habits and their desire to change — something that being a wellness coach has taught me time and again. This involves a deeper understanding of how to ask open-ended questions, listening to patient responses to said questions, listening to what patients have to say and also allowing them to make a plan on how to move forward, not just how to move forward with an assigned treatment plan.

We also must not forget to look at the comorbid conditions exhibited by patients so that we as coaches can weave these conditions into care plans. The idea being that you want your client/patient to not just be compliant with their sleep treatment but also compliant with their health and wellness needs such as medication, diet if they have Type 2 diabetes and movement if they need to add that to their day.

AMY KORN-REAVIS, MBA, RRT, RPSGT, CCSH, ACC, *is the owner of Akorn Coaching, LLC. She has taken her experience as a sleep technologist, lab manager, academic program director and other life experiences to help people to sleep better. She has also supported the field of sleep through her writing and through working with the AAST as a board member. Her ultimate goal is to help other technologists who wish to be sleep coaches pursue their dreams.*
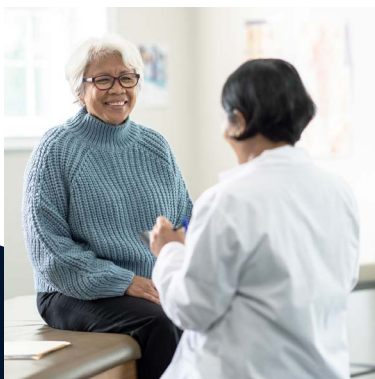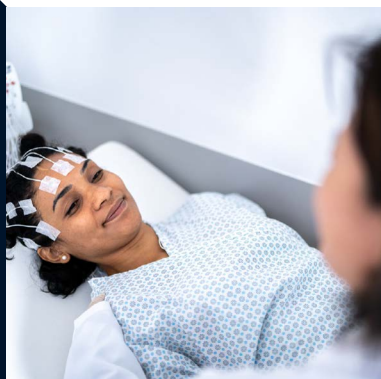
Advanced NIV Techniques: Thoughts From a Sleep Technologist

By Brandon Ramirez, BA, RPSGT, CCSH, PSC

The following article is a collective reflection of advanced NIV Techniques based upon the author's experiences in working with and learning about titrations and the physiology of pulmonary disease.

There are a number of reasons a patient may need noninvasive ventilation (NIV). Within the field of sleep medicine, some of those reasons may include obesity hypoventilation syndrome, neuromuscular disease, cardiopulmonary disease or traumatic brain injury (TBI). The way to connect these different afflictions in the context of sleep lies in the fixed and variable settings involved in performing NIV.

Many of the common issues that lead a patient to qualify for an NIV titration may be simplified to a few key factors: poor ventilation, its effect on sleep quality and how sleep quality affects health and recovery. The progression of clinical assessment that leads a patient to NIV in the health care system would first require attempting continuous positive airway pressure (CPAP) therapy. CPAP is not considered ventilation as it is a continuous, unidirectional positive pressure. Therefore, the airway compliance provided by CPAP does not reduce CO_2 concentrations in the presence of complex chronic respiratory failure, such as the breathing patterns that lead to increased CO_2 levels. Elevated levels of CO_2 can occur with decreased ventilation. Decreased ventilatory effort during sleep can also be described as a decreased drive to breathe, as CO_2 concentration is the primary instigator of breathing.

NIV can be utilized as a tool to provide support to patients that produce a cyclic negative feedback on CO_2 concentrations, referred to as central sleep apnea (CSA). Breathing patterns affected by rising CO_2 concentrations are observed in the sleep lab manifested as CSA or complex central sleep apnea, the combination of obstructive sleep apnea (OSA) and CSA. The goal of NIV is to provide proper ventilation by reducing CO_2 in the presence of hypercapnia, thus stabilizing breathing patterns. The additional complexities engaged when exchanging CPAP for NIV are both expiratory and inspiratory efforts, timing of breath rate and inspiration and the patients estimated tidal volume.

Further clinical judgments beyond OSA lead to the skilled operation of ventilation settings, which increase patient comfort with treatment, airway compliance and patient treatment compliance. Quality of life is a common measure for patient self-assessment of their personal wellbeing in their current lifestyle; if providers are able to treat the patient's illness and improve their lifestyle, then one would assume that the patient's quality of life would improve as well.

Treating patients with sleep-disordered breathing often has a powerful effect. A majority of the population knows the feeling of periods of restlessness and finally falling asleep or recalling the entirety of the evening tossing and turning. This distress before bed, if caused by airway obstruction or insufficiency, can be treated if they were to breathe properly while resting. Those with complex diseases have a more challenging time reaching the night where they reach a deep sleep because CPAP therapy may not be enough. NIV can come to save the day and provide the patient a better daytime and nighttime quality of life.

Benefits of Initiating Bi-level Therapy

In order to address each of the aforementioned disorders, one must first consider the method of approach to a flow channel with a respiratory waveform that appears to be outside of normal parameters. Being able to address the issue in an organized manner aids the patient's care by properly tackling the challenge presented in a timely fashion. The first approach to sleep disordered breathing is, primarily, to open the airway. Once the airway obstruction is alleviated, the ventilation and respiratory rate can be assessed.

If first approaching ventilation or respiratory rate, the obstruction — which could be the principal element fluctuating the drive to breathe — may elongate the time it takes for the patient to rest and achieve optimal oxygenation and sleep efficiency. Imagine the in-lab scenario of a common occurrence in an evening performing a PAP titration; the patient has

> *A majority of the population knows the feeling of periods of restlessness and finally falling asleep or recalling the entirety of the evening tossing and turning.*

been wearing CPAP for a few hours and having severe OSA with some scattered CSA. The technologist is frustrated in the early hours of the morning from being stuck on this patient having repeat desaturations and arousals from each pressure adjustment. In the lab setting, this can be tough, as the technologist must observe the obstruction and judge the presence of central aspects in the breathing pattern. Naturally, the technician behind the titration is likely to first use the tactic of increasing expiratory pressure. By raising the CPAP level, the central characteristic of the breathing pattern is likely to increase. As noted earlier, CPAP does not provide ventilation.

In the presence of a patient with cardiopulmonary disease, such as right-sided heart failure with cor pulmonale, the hypercapnic cycling that this patient is experiencing could be the respiratory drive struggling to stabilize. Breathing instability, initiated by the increased CPAP level, is likely extended due to the high pressure. The phenomena described may be due to the patient's inability to exhale CO2 effectively, otherwise known as poor ventilation. Titration using a bi-level setting would provide ventilatory support.

Ventilatory support has a few equivalent names in the respiratory field, including expiratory positive airway pressure (EPAP)/inspiratory positive airway pressure (IPAP) delta and pressure support. Increasing the pressure support allows the patient to do what is called "blowing off CO2." Hence, reducing the elevated CO2 means the patient has improved ventilation. Identifying the underlying problem, before modifying the wrong portion of the breath, can prevent an hour, or more, of tribulation of resolving the pressure-induced CSA or the onset of hypercapnia.

Another patient comorbid condition, obesity hypoventilation, is an instance in which breathing efficiency is achieved with the use of bi-level therapy. Many morbidly obese individuals struggle with PAP therapy, as they often require high pressures to maintain their airway compliance. The application of high pressure CPAP, beyond 15 cm H2O, tends to be difficult for many patients. If the patient's airway is close to a level of an acceptable titration (according to the American Association of Sleep Medicine [AASM] Gold Standard guidelines where the airway has a maintained patency with fewer than 10 respiratory desaturations per hour) at the high pressure point, they may begin to express CSA. This CSA is possibly an outcome of the patient's inability to expire CO2. Hypoventilation is common in many patients who have increased weight due to the increased pressure of the weight on their chest, which inhibits appropriate airflow.

Ventilation: Breath Rate

During over-night titration in the lab, the patient's ventilation can be improved with a few distinctive pressure adjustments. Along with increased pressure support and tidal volume, other important factors to consider are breath rate and inspiration time (I-Time) manipulation.

If the patient has chronic obstructive pulmonary disease (COPD) and has achieved an open airway, but cannot maintain oxygen saturations within normal limits, then the technologist may trial bi-level therapy. The use of expiratory and inspiratory pressures involved in airway mechanics may enhance CO2 exchange to lower CO2 trapping, thereby increasing oxygenation levels.

Patients with comorbid hypoventilatory diseases, COPD and obesity hypoventilation syndrome may come close to achieving an open airway with bi-level therapy. However, often times the increase in CO2 manifests as stubborn CSA. In this case, the technologist must address the remaining, and steadily developing, central aspects of the breathing pattern. Appropriately addressing the central characteristics of respiration involves, first, a trial adjustment of pressure support settings to improve ventilation, reducing CO2 to normal levels. Once the CO2 has

been addressed and the CSA remains, the technologist may apply a respiratory rate to combat the ventilatory periodicity. (The respiratory rate setting will improve ventilation with increased respirations and provide a more consistent expiration of CO2, thus allowing the patient to reach a stable breathing pattern.)

The bi-level setting used to address breathing rate, bi-level spontaneous timed (S/T), also allows for the manipulation of the inspiratory time (I-Time) — which is important for patients with obstructive pulmonary disease or neuromuscular disease. The inability to complete an adequate breath, despite the airway being open, means the volume in the chest must be paid extra attention. This can be addressed by ensuring the breath is being timed properly to the patient. Proper timing of the pressure flow creates the airway

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> *The ultimate goal of VAPS therapy is to provide relief of central apnea and hypoventilation. Utilizing appropriate expiratory pressure settings provides improved ventilation.*

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patency necessary for the breath to reach peak volume. In turn, a successive breath pattern with peak-to-peak volume allows the best chance for optimal gas exchange. The I-Time for COPD patients can be decreased to allow the inhalation to become more powerful in the beginning of the breath and offers the patient the greatest chest volume attainable. In neuromuscular disease, the chest is restricted which impedes ventilation efficiency. For these patients, it is helpful to increase the inspiratory time. The elongation of the breath can aid patients in attaining and managing sufficient chest volume with a longer slow breath. The breath in patients with restrictive diseases is not insufficient in the beginning of the breath, it is the tightening of the airway at the top of the breath. Slowing the breath allows for an expansion in the patient's sustained tidal volume, optimizing ventilation and oxygenation.

Ventilation: Volumetric Control

As the progression of PAP titration modalities fails to achieve optimal, or short of adequate, levels of ventilation and oxygenation, patients become increasingly discouraged about their treatment options. Every so often, the sleep lab encounters a patient whose previous modes of treatment have been inadequate in treating their respiratory insufficiency. Air flow channels during PAP therapy can show the sinusoidal waveforms that appear when an airway is compliant and unobstructed, however the waveform can also be sinus in shape without the flow being sufficient. The technologist should track the tidal volumes being reached with each breath during the titration. Each breath that misses the tidal volume desired, absent apnea, creates problematic hypercapnic hypoxemia. The more advanced method of volume control provides support for tidal volume inadequacy.

The patient's in the above scenario are often on multiple liters of supplemental oxygen during the evening due to difficulty with appropriate ventilation and severe hypercapnia. Tidal volume adjustments are necessary for patients with sensitive O2 and CO2 imbalances. The volume-assured pressure support (VAPS) mode is able to adjust all the settings of bi-level, including bi-level S/T, and includes volume pressure control. As the tidal volume is achieved with a fixed setting, the optimal pressure within the chest cavity peaks.

If the ventilation is insufficient to maintain minute ventilation and airway compliance, the pressure support may be adjusted with additional focus on tidal volume achievement. A timed breath, adjusted tidal volume and variable expiratory pressures all work together to provide the most compliant airway and efficient ventilation.

Some of the more moderate to severe COPD patients with extreme hypoventilation can benefit from a VAPS titration. The breath rate and added expiratory control along with variable pressure support for tidal volume optimization can maximize gas exchange. The ultimate goal of VAPS therapy is to provide relief of central apnea and hypoventilation. Utilizing appropriate expiratory pressure settings provides improved ventilation.

It is the technologist's responsibility to apply the skills of clinical judgment and to pay attention to what interruptions and pathology are present in the PSG aside from obstruction. Treatment of the obstruction and the drive to breathe within the context of an individual's illness are all factors capable of being addressed during an over-night titration with the use of appropriate treatment settings. Taking the patient disease state and the ventilation into consideration provides the patient with the best care, the best outcome and the best chance at a successful recovery. 🌙

BRANDON RAMIREZ, BA, RPSGT, CCSH, PSC, *began his career in sleep by working at a sleep lab on the weekends while studying archaeology at the University of Central Florida and completing prerequisites for medical school. Through this, he found a love of clinical presentation and a strong connection to many frustrations patients expressed preparing for the overnight PSG. He decided to take his experience with sleep issues and apply his passion of biochemistry and appreciation of perspective in broadening the foundation of patient education, thereby working to achieve patient success.*

Compliance Corner

With Laura Linley, CRTT, RPSGT, FAAST

Understanding Medicare Coverage Requirements

I have previously discussed the importance of referencing Medicare (MCR) provider compliance tips and looking for the latest tips for improper payment rates, denial reasons, coding, etc., in this column. I recently revisited their compliance tips related to polysomnography/sleep studies and there are no substantive new changes or tips posted for this service line. As a health care provider, you should understand Medicare coverage before providing services or items to Medicare patients. Because extensive coverage information is readily available, Medicare has made it known that they expect health care providers to know their coverage requirements in order to avoid payment denial.

HCPCS and CPT Codes for Testing

This Local Coverage Article (LCA): Billing and Coding – Polysomnography (A56995) provides the most current Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology (CPT) codes, as well as International Classification of Diseases (ICD)-10 codes that support medical necessity.

Background

According to a U.S. Department of Health and Human Services (HHS) Office of Inspector General (OIG) report from Jan. 1, 2014 through Dec. 31, 2015, Medicare Administrative Contractors (MACs) nationwide paid freestanding facilities, facilities affiliated with hospitals and physicians about $800 million for selected polysomnography services (a type of sleep study to diagnose and evaluate sleep disorders).

You must meet the provisions in your Local Coverage Determination (LCD): Polysomnography (L36593) in order to be paid for polysomnography services provided for Medicare patients. Be sure to verify you are referencing the LCD for your service area.

Denial Reasons

Earlier OIG reviews for polysomnography services found that MCR paid for services that did not meet their requirements. They identified payments for services with inappropriate diagnosis codes and/or without the required supporting documentation. Providers with patterns of questionable billing were also noted.

As a result of their audit, the OIG estimated MCR overpaid $269 million for polysomnography services during this audit period. These errors occurred because polysomnography services oversight was insufficient to assure providers complied with stated requirements.

Preventing Denials

MCR will cover polysomnography when services meet these criteria:

- Clinic is either affiliated with a hospital or is controlled by physicians. MCR may cover diagnostic testing routinely done in sleep disorder clinics in the absence of direct physician supervision (so the MD does not need to physically be on-site for the testing) but there must be policy and procedure and adequate oversite during the testing.
- Attending physicians may refer their patients to sleep disorder clinics. It is mandated that the clinics keep a record of attending physicians' orders.
- Medical evidence confirms the need for diagnostic testing (for example, physician exams and lab tests). These office visit notes and documentation must be kept in the sleep clinic's patient record as well.

MCR does not cover duplicate diagnostic testing of earlier testing done by the attending physician, to the extent results are still relevant, because it isn't reasonable and necessary under section 1862(a)(1)(A) of the Social Security Act.

MCR continues working with MACs to educate providers on properly billing polysomnography services, including meeting the requirements outlined in Medicare Program Integrity Manual, Chapter 5 for CPAP services.

Documentation Requirements

MCR does require an order from the provider who treats the patient for all diagnostic tests, including polysomnography. Polysomnography providers must enter the ordering provider's name and National Provider Indentifier (NPI) on the polysomnography claim.

MCR covers polysomnography only if the patient has documented symptoms, such as complaints of narcolepsy, sleep apnea, impotence or parasomnia in the medical record. Note that polysomnography for chronic insomnia is not covered. Section 70 of Medicare Benefit Policy Manual, Chapter 15 provides detailed information on coverage indications.

I cannot stress enough the importance of also referencing the tips and documentation requirements needed for continuous positive airway pressure (CPAP) devices and accessories. It is not just the durable medical equipment (DME) suppliers or treating practitioners who need to understand these tips. A sleep service program must follow these requirements to ensure that patients can be properly treated for the diagnoses made in our centers.

HCPCS and CPT Codes for PAP

Local Coverage Determination (LCD): Positive Airway Pressure (PAP) Devices for the Treatment of OSA (L33718) provides the most current HCPCS and CPT codes.

Background

According to the 2021 Medicare Fee-for-Service (FFS) Supplemental Improper Payment Data, the improper payment rate for CPAP is 30.8%, with a projected improper payment amount of $319 million.

MCR will cover CPAP devices and accessories under the DME benefit (section 1861[s][6] of the Social Security Act). You must meet the provisions in National Coverage Determination (NCD): CPAP Therapy for OSA (240.4). You can reference the policy requirements in LCD L33718.

Denial Reasons

For the 2021 reporting period, MCR states that insufficient documentation accounted for 88.6% of improper payments for positive airway pressure devices. No documentation (0.5%), medical necessity (0.5%), incorrect coding (0.1%) and "other" errors (10.3%) caused improper payments.

Preventing Denials

These Medicare coverage and payment guidelines apply to CPAP device claims:

- The patient has an in-person clinical evaluation by the treating practitioner before the sleep test to assess them for OSA
- The patient has had an approved sleep test:
  - Polysomnogram (PSG) attended by qualifying practitioner and done in sleep lab
  - Unattended home sleep test (HST) with a Type II or Type III home sleep monitoring device

Compliance Corner *continued*

- Unattended HST with a Type IV home sleep monitoring device that measures at least three channels
- The sleep test is interpreted by a practitioner who specializes in sleep studies and shows either:
  - An Apnea-Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) greater than, or equal to, 15 events per hour with a minimum of 30 events
  - An AHI or RDI is greater than, or equal to, five and less than, or equal to, 14 events per hour with a minimum of 10 events and documentation of:
    - Excessive daytime sleepiness, impaired cognition, mood disorders or insomnia
    - Hypertension, ischemic heart disease or history of stroke
- When providing the PAP, you must also document that the device's supplier instructed the patient or their caregiver in the equipment's proper use and care

Continued coverage after 12 weeks depends on practitioner reassessment and documentation of patient therapy regimen adherence and OSA symptom improvement.

To Note

MCR does define "apnea" as a cessation of airflow for at least 10 seconds. They define "hypopnea" as an abnormal respiratory event lasting at least 10 seconds with at least 30% reduction in thoracoabdominal movement or airflow and at least 4% oxygen desaturation.

Documentation Requirements

To justify payment, you must meet specific requirements when ordering Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS).

For CPAP devices, MCR does require a face-to-face encounter or written order prior to delivery before the item(s) are delivered to the patient.

Resources

- Master List of DMEPOS Items
- Prior Authorization and Pre-Claim Review Initiatives

Conclusion

It is important to remain updated and compliant with MCR payment standards. It is also important to note that the majority of commercial health insurers follow or reference Medicare guidelines. Establish a culture within your business that promotes prevention of errors and detects and resolves problematic practices to ensure proper documentation.

Despite the ups and downs the sleep industry has experienced recently, I hope that 2022 has been a successful year for you and your organization. Thank you for taking the time to reference AAST, we are very thankful. Here is to a happy and healthy 2023 for you and yours. 🌙

Prior Authorization and Pre-Claim Review Initiatives

2022 AAST Fellows

The AAST Fellow Program is a means of recognizing those who have made significant and sustained contributions to the field of sleep technology. Fellowship recipients must be credentialed in sleep technology by a nationally recognized organization for at least 15 years and have been a regular AAST member, in good standing, for the last 10 consecutive years.

AAST Fellows have also attained distinction through significant professional service to AAST and to the field of sleep technology; significant professional contributions to the field; or prominent leadership, influence and achievement in clinical practice, education or science.

The 2022 class of AAST Fellows include:

T. "Massey" Arrington, MBA, RPSGT, RST, CCSH

Lisa M. Bond, RPSGT, RST

Michael Furgason, RPSGT, RST, CCSH

Debra A. Guerrero, MS, RPSGT, CCSH, RRT

Amy Korn-Reavis, MBA, RRT, RPSGT, CCSH, ACC

Daniel D. Lane, MAPsy, BS, RPSGT, CCSH

2022 Award Winners

AAST Leadership Award

This award honors and recognizes an AAST member who has demonstrated exceptional leadership qualities through their commitment to AAST.

Winner: Laura Linley, CRTT, RPSGT, FAAST

AAST Service Award

This award honors and recognizes an AAST member who has made significant contributions to the growth and development of the sleep technology profession.

Winner: Julie DeWitte, RPSGT, RST, RCP, FAAST

AAST Professional Development Service Award

This award honors and recognizes an AAST member who demonstrates exceptional commitment to advancing education in sleep technology.

Winner: Larry Brewer, BA, RPSGT, RST

AAST Literary Award

This award honors an AAST member who has written an original article, paper or textbook chapter in the past year that has been accepted for publication.

Winner: Robyn Woidtke, MSN, RN, RPSGT, CCSH, FAAST

AAST
AWARDS

Sleep Technology's Future: An Overview of the AAST Workforce Summit

By Laree J. Fordyce, CCRP, RPSGT, RST, CCSH, FAAST, and Melinda Trimble, LRCP, RPSGT, RST, FAAST

Abstract:

The AAST Board of Directors hosted the AAST Workforce Summit on April 2, 2022, with the goals of reviewing results of the 2021 Workforce Survey Report, discussing the current state of the sleep industry, and developing takeaways and next steps for advancing the industry. The one-day event was attended by a group of selected professionals from the sleep community — including sleep technologists, sleep lab managers, physicians and industry vendors — and included presentations on the advancement of home sleep apnea testing (HSAT), the inclusion and advancement of artificial intelligence (AI) in the sleep profession, the current state and advancement of education for sleep professionals, and changes in the workforce. After discussing these topics at great length, attendees collectively identified five areas of focus in which next steps are needed in order to position the sleep profession as a leader in the health care space. Within each of these five areas of action, attendees further identified actionable takeaways that would allow for the advancement of the profession in the coming years.

Keywords: sleep, sleep profession, sleep workforce, sleep technology

Abbreviations:

AI – artificial intelligence
AASM – American Academy of Sleep Medicine
BRPT – Board of Registered Polysomnographic Technologists
CCSH – Certification in Clinical Sleep Health
EHR – electronic health records
HSAT – home sleep apnea testing
ISR – inter-scorer reliability
NCCA – National Commission for Certifying Agencies
OSA – obstructive sleep apnea
PCP – primary care provider
PSG – polysomnography
RPSGT – Registered Polysomnographic Technologist

On April 2, 2022, the AAST Board of Directors hosted the AAST Workforce Summit with the goals of reviewing the 2021 Workforce Survey Report[1] results, discussing the current state of the sleep industry, and developing actionable takeaways and next steps for advancing the industry.

The one-day summit was attended by members of the sleep community — including sleep technologists, sleep lab managers, physicians and industry vendors from AAST; the American Academy of Sleep Medicine (AASM); Advanced Sleep Management; the Board of Registered Polysomnographic Technologists (BRPT); EnsoData; Greensfelder, Hemker, & Gale PC; Northwestern Medicine; the North Dakota Center for Sleep and the Society of Behavioral Sleep Medicine. Invitations were extended to all major stakeholders and prestige partners of AAST — and the summit featured presentations by industry leaders and physicians. The presentations touched on the advancement of home sleep apnea testing (HSAT), the inclusion and advancement of artificial intelligence (AI) in the sleep profession, the current state and advancement of education for sleep professionals and changes in the workforce.

After each session, small group discussions occurred followed by full-group discussions that helped drive the collective key takeaways and next steps that the sleep community will look to work together in executing over the next five years.

Advancement in HSAT

Coming out of the 2013 Sleep Technology Summit, "there was a clear consensus that regulatory and economic pressures [were] changing the way sleep disorders patients are diagnosed and treated."[2] At the time, in-lab polysomnography was still the prevalent diagnostic test but HSAT was being incentivized for patients suspected of having obstructive sleep apnea (OSA). As noted in Brooks and Trimble, in 2013 "reimbursement for HSAT would be lower than in-lab testing and additional reductions in overall reimbursement were anticipated"[2] which, at the time, was presumed to certainly reduce the need for sleep technologists.

More recently, HSAT has become the preferred method for sleep testing for OSA. This likely was accelerated by the COVID-19 pandemic as sleep laboratories and centers were shut down. As clinical patient services were conducted virtually, the diagnosis of OSA moved further into the home. While this has become the new diagnostic algorithm, Laura Linley, vice president of operations at Advanced Sleep Management, demonstrated that the decline in in-lab testing was now significantly impacting the financial

Figure 1—Pre-COVID-19 Volume of In-lab Sleep Studies
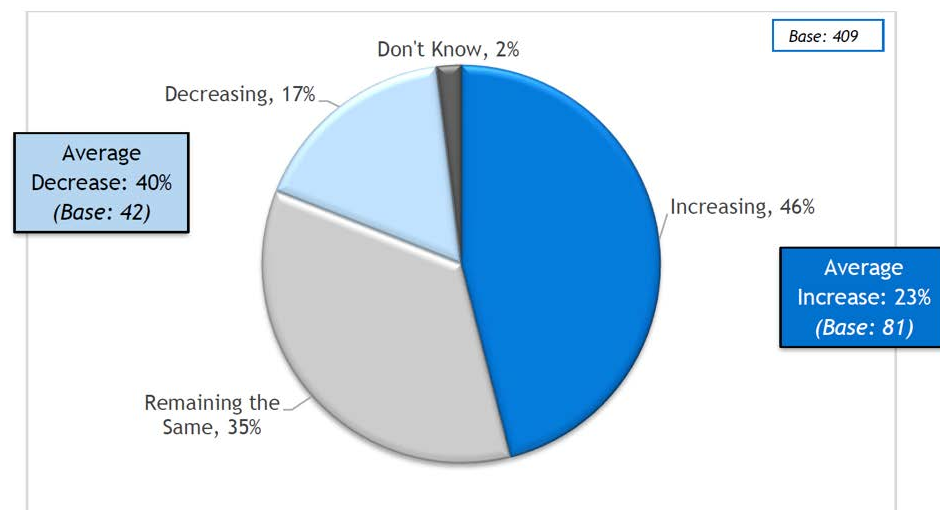
Volume of in-lab sleep studies being performed pre-COVID-19 by survey takers. Source: 2021 Workforce Survey Report[1]

Figure 2—Projection of Post-COVID-19 Volume of In-lab Sleep Studies
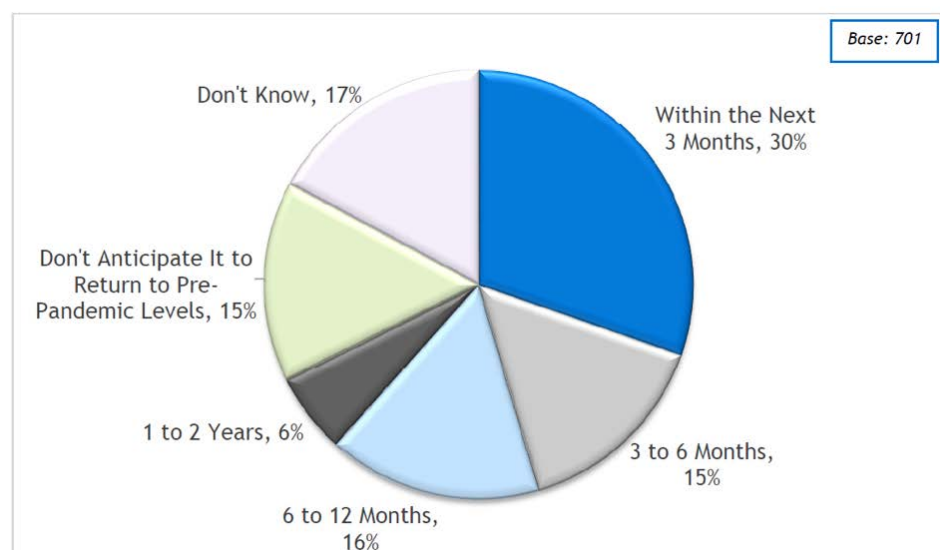
Note: Insufficient data or no data provided for 3 to 4 years and 5 years response options.

The projected volume of in-lab sleep studies being performed post-COVID-19 by survey takers. Source: 2021 Workforce Survey Report[1]

viability of sleep programs across the United States. While the home test itself is simpler from a technology standpoint, it does require more patient education and pre- and post-test support provided by the sleep technologist and a referral from a primary care provider (PCP).[3]

While the sleep community has seen HSAT advance over the past decade, continued advancements are anticipated, which will continue to force clinicians to adapt.

Acknowledging that the best patient care is done in the lab, Dr. Seema Khosla, medical director at North Dakota Sleep Center, shared insights into how the current state of the sleep workforce is shifting how and where patient care is being done. She noted that the lack of staff is another force shifting more patients towards HSAT, which in turn is requiring sleep professionals to expand their reach outside of the lab.[4]

To address the current needs of patients, whether in the lab or via HSAT, and to set sleep technologists up for future success, conversations must be held around sleep technologists' current educational needs, as well as the future roles sleep technologists may have related to patient care. Additionally, Dr. Khosla emphasized that the conversations key stakeholders in the industry engage in must include addressing short- and long-term goals with sleep professionals, vendors and insurance companies (to offer payor perspectives/ expectations) collectively in order to find success with HSAT and overall patient treatment while emphasizing the importance of the sleep technologist and non-OSA sleep medicine. As Dr. Khosla phrased it, "the path forward is together."

Advancement of AI

With an aging population across the globe, addressing sleep disorders will require new solutions and systems.[5] As the sleep field looks to the future, AI advancements will need to be embraced even more so than they are now so that sleep professionals can provide the best screening, diagnosis and treatment to the aging population.

Thanks to the introduction of AI in the sleep clinic, sleep technologists are able to simplify each step of the patient care process.

Screening. Sam Rusk, co-founder and president of EnsoData, noted that AI advancements will soon allow for enhanced risk stratification from electronic health records (EHR) and/or claims data; characterize risk(s) beyond the OSA or no OSA point of view; and look more broadly at other sleep disorders and health care utilization and cost. Further, AI adaptation will help power sleep navigation through enhanced risk stratification, customer service and software automation; and identify populations that are underserved and underrepresented that may be suffering from sleep disorders.[5]

Diagnostic. The advancements in AI and further adoption of AI usage will in turn positively impact the diagnostic stage, allowing for continued advancements of diagnostic devices, which will hopefully be more user-friendly and smaller form factors. Additionally, with further AI adaptation, sleep technologists can and

should expect sleep studies to populate risk predictions for neurodevelopmental, cardiac (hypertension, ischemic) and neurodegenerative diseases.[5]

Treatment. Treatment and treatment plans will become more targeted and specific to the patient as AI progresses. AI will be able to not only predict treatment response, it will also further assist with treatment monitoring, predicting patterns in changing adherence and identifying patients at higher risk of treatment non-adherence. Furthermore, with the adaptation and further advancement of AI, sleep technologists will be able to identify populations of people that may require different care plans and pathways.

Rusk was also careful to delineate what AI can and cannot accomplish. AI technology is not intended to replace sleep technologists but rather to expand their reach.

As Rusk concluded, software and AI will only continue to connect each step of a patient's care journey. This is essential to successfully manage the increase of patients with sleep disorders.

Advancement of Education

In surveying the current sleep workforce, it is evident that there is a need for educational change. As noted by Kathryn Hansen, owner of Integration Consultants LLC and executive director of the Society of Behavioral Sleep Medicine, not only is there an education gap amongst the various generations of sleep professionals, there are challenges with competencies, skill sets and technology adaption. Additionally, further staffing shortages are due to the "Great Resignation" in which many are leaving their current jobs for other opportunities due to widespread workforce shortages across clinical and non-clinical fields.[6]

In order to advance sleep education, the sleep community as a whole must collaborate to facilitate change. Collaboration can take on many forms according to Hansen, but the most impactful for the sleep community would be through what she referred to as "legacy thinkers" — those that can offer advanced mentoring for professionals in the early, middle and advanced stages of their careers. Through this mentoring, sleep professionals can not only advance themselves, they can have the knowledge and tools to advance their patients' care, becoming integrated specialists.

The advancement of education will not come without challenges, however. The sleep industry is comprised of professionals with varying years of experience, but many in the field are older, with over 35% having over 20 years of experience (see Figure 3). With this in mind, the education that is needed to allow sleep professionals to professionally advance in their careers and the knowledge base needs to be carefully considered, which includes managing generational expectations, challenging the status quo and committing to measuring change over time.[6] With these considerations in mind, future sleep education

Figure 3–Years of Experience of Current Sleep Professionals

Breakdown of years of experience working in the sleep field by survey takers. Source: 2021 Workforce Survey Report[1]

and training can and should be taught from the expert perspective, rather than simply hierarchical; transition from didactic to experimental learning and integration; and view critical thinking as a means of mentoring, not a didactic presentation.[6]

As Hansen sees it, over time, the key influencers who will help facilitate this transformation will be the ones who value a diverse collaboration of innovative thinkers seeking change as an opportunity to embrace professional growth.

Changes in the Workforce

With a varying workforce and clear need for new professional development, it is evident that the role of a sleep technologist is changing, predominately due to technology advancements. As Andrea Ramberg, clinical director at EnsoData and president of the BRPT, noted, this change, for the current time being, has created a sense of instability for a career in sleep medicine. Therefore, the sleep community as a whole must work together to address this problem.[7]

Ramberg shared that one way to address the instability is to encourage sleep technologists to become certified. While the Registered Polysomnographic Technologist (RPSGT) certification is the most common amongst sleep professionals, new certifications and educational opportunities that can show professional competence will be crucial for solidifying and reestablishing careers in sleep.

For example, the Certification in Clinical Sleep Health (CCSH) is becoming more widely encouraged as it allows sleep technologists to "work directly with sleep medicine patients, families and practitioners to coordinate and manage patient care while improving outcomes."[8] While more professionals in and outside of the sleep industry are becoming familiar with the CCSH and what it stands for, it too will become a foundational certification for sleep professionals, like the RPSGT, upon its pending National Commission for Certifying Agencies (NCCA) accreditation.[7]

In speaking to summit attendees, Ramberg also emphasized other ways to bridge the career gaps being faced by sleep technologists; 1) to work with key stakeholders via partnerships to foster
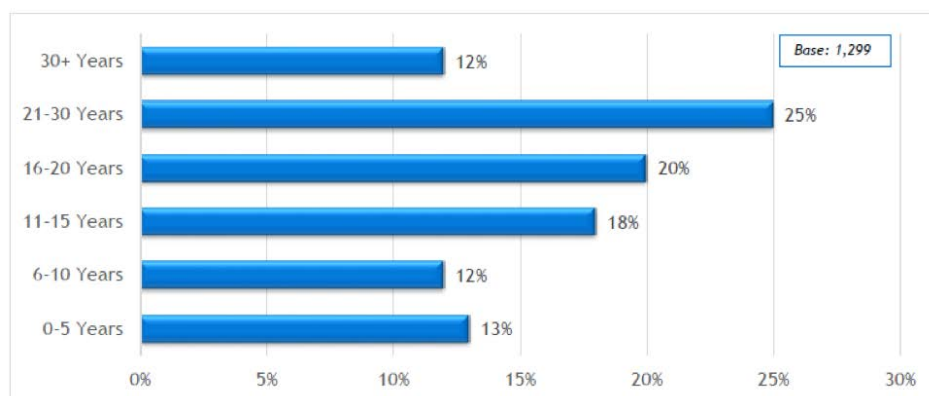
an inclusive career path; 2) develop a clear outline of the various sleep career paths (i.e. sleep coach, sleep navigator, sleep educator) with set education noted for each; 3) identify testing domains and areas in which sleep technologists are lacking expertise; and 4) develop ways to facilitate improvement.

As the sleep field looks to expand the workforce, it is also important that key stakeholders begin to target other allied health professionals and focus marketing efforts on sleep being a promising career path.

Offering an additional viewpoint, Dr. Scott Williams, co-chair of the AASM's Inter-scorer Reliability (ISR) Gold Standard Panel, explained how physicians are now re-evaluating the sleep technologist's role in patient care. Dr. Williams noted that the role of the sleep technologist is drastically different than what it looked like in the past. Sleep care is moving away from relying on level one polysomnography (PSG) professionals and more towards sleep technologists who are certified in not only testing but also patient care (i.e. the CCSH role).[9]

With an increased population of people now experiencing sleep disorders, level one PSG is becoming reserved for those who are medically complex or pediatric patients. Sleep technologists must have specialized skills to work with people of all ages and have the ability to communicate results and findings with physicians. While technology is evolving to assist sleep technologists, a hands-on approach will still be needed, making the sleep technologist role one that will continue to become an integral part of future clinical operations.[9]

Summit Consensus and Takeaways

Upon the conclusion of the presentations noted above, attendees identified five key areas of focus in which next steps would need to be taken in order to position the sleep profession as a leader in the health care space. Within each of the five main areas of action, attendees further identified actionable takeaways that would allow for the advancement of the profession.

1. **Redefine sleep technology and advocate for the importance of the profession through the creation of a career path for sleep technologists that allows for growth and retention.**

   Due to an aging RPSGT population and waning interest in the pursuit of sleep technologist jobs, it is imperative to create a robust career path for sleep technologists to prevent further shrinkage of the sleep technology employee pool and subsequently, sleep labs. To achieve this goal, the sleep community collectively will need to generate and promote evidence demonstrating the importance of sleep itself and the sleep technologist. Further, technologists must be seen as the central focus of a full-spectrum sleep disorders clinic and not just experts in PSG and OSA.

   With many sleep technologists approaching the age of retirement and fewer people entering the sleep field, as well as attrition in the sleep-technologist workforce, it is imperative that the role of the sleep technologist is repositioned as a healthy profession and can provide professional growth so that there are enough sleep professionals to accommodate the aging population. Older patients with sleep disorders tend to have more comorbidities and as a result may not be appropriate for home sleep testing and will require in-lab PSG. While attendees agreed advancements in technology will continue to cause significant decreases in in-lab sleep testing volumes, it will not eliminate it completely due to complex disorders requiring specialized diagnostic and treatment approaches. In order to allow for the role of the sleep technologist to grow in this newly created path, particularly with in-lab studies, attendees agreed that changes must be made to payor-driven requirements. Without changes in reimbursement, sleep technologists will be limited in how they expand their clinical skills. Specifically, this will require thoughtful consideration from a scope of practice standpoint in addition to a payor standpoint in order to create a viable pathway.

2. **Embrace changes in health care and view technology advancements as an opportunity.**

   In looking at technology as a whole, sleep professionals need to be receptive to change and view technology as a way to simplify processes — especially processes that are viewed by sleep technologists as less desirable — so that more attention can be spent directly on patient care and outcomes improvement.

   AI is a driving force in health care, including the sleep field. It has been broadly accepted as a means of improving scoring workflow efficiency. Additionally, it will aid in patient care by facilitating data collection and identifying various sleep disorders phenotypes or other nuances that lead to more effective solutions. This technology will also allow for evaluation of outcomes while facilitating data sharing among sleep professionals.

   This "big data" is another opportunity for sleep technologists to help clinics manage the patient care continuum (initial referral to diagnosis to treatment to selection to adherence and troubleshooting) to optimize patient care.

3. **Develop education that promotes critical thinking to further career development.**

   With so many colliding forces – a workforce beleaguered by attrition and aging, advancements in technology with quick adoption of health care in the home, including patient education, HSAT and remote monitoring of therapies, education for sleep professionals is crucial. To aid in the development of the education that sleep professionals need, summit attendees agreed that the sleep community should tap advanced career legacy thinkers to create and facilitate this education as a mentoring and educational opportunity.

   Key stakeholders recognize that change is essential. Collaboration to expand sleep technologist education, and possibly the scope of the field, should be considered and prioritized.

4. **The role of the sleep technologist needs to expand beyond that of RPSGT and advance towards CCSH.**

While the RPSGT credential is the gold standard for the sleep profession, the CCSH certification and the additional education it requires is the future of the profession. However, it is being drastically underutilized. The sleep technologist role should not be suppressed; rather there should be education and development opportunities for sleep technologists, and even clinicians, to engage as sleep coaches, educators, mentors and navigators. The full continuum of the career path of the sleep technologist should be considered with opportunities for advancement throughout.

The CCSH will play a significant role in the future of sleep technology and must become the foundation of technologist certification. As the CCSH continues to grow and become adopted by the sleep community, it has the potential to grow into a certification that can be utilized by other medical disciplines and provide educational opportunities for new sleep technology stakeholders such as medical assistants, nurses and nurse practitioners. Payor policies around reimbursement for education for sleep disorders, similar to asthma education, will promote the widespread adoption of this credential.

5. **Understand revenue billing opportunities and how these opportunities will broaden the sleep technologist role.**

Billing codes for patient visits with sleep technologists, whether in person or virtually, need further development and acceptance. Without standard reimbursement policies, the care provided by a trained sleep technologist will be limited and lead to further strain on currently credentialed health care workers such as nurse practitioners, physician assistants, and physicians.

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Disclosure Statement