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Susan Mosier, MD, Secretary | Department of Health & Environment | Sam Brownback, Governor

FINAL REPORT TO THE LEGISLATURE FROM THE SECRETARY ON THE APPLICATION FROM THE KANSAS ASSOCIATION OF SLEEP PROFESSIONALS

August 5, 2015

The Kansas Association of Sleep Professionals submitted an application related to the practice of Polysomnographic Technologists requesting credentialing. The application has been reviewed in accordance with the Kansas Act on Credentialing by a technical review committee and the Secretary of Health and Environment. The technical committee conducted four fact-finding meetings, including a public hearing, to investigate the issues. According to K.S.A. 65-5005, the Secretary is to issue a final report to the Legislature after receiving the technical committee's report. The technical committee's report was submitted to the Secretary on September 12, 2014. (Attached is the technical committee's report.) This is the final report of the Secretary to the Legislature.

The statutes state that the Secretary is neither bound by the recommendations of the technical committee, nor is the Legislature bound by the Secretary's recommendations.

K.S.A. 65-5005 requires that all of the criteria are to be found met and a need for credentialing established prior to the technical committee or Secretary making a recommendation that the application be approved. The technical committee concluded that Criteria 7 and 9 were met by the Applicant and that Criteria 1, 2, 3, 4, 5, 6 and 8 were not met. The technical committee made the following two recommendations:

RECOMMENDATIONS OF THE TECHNICAL COMMITTEE:

A) Criminal Background checks: The technical committee concluded that although not all the nine criteria were met, they recommended criminal background checks be performed upon hiring Polysomnographic Technologists and annually throughout their employment.

B) Non-Governmental Certification and Education - The committee also recommends Polysomnographic Technologists in Kansas pursue available educational opportunities in this field, be certified by a non-government association, and seek continuing education.

IN SUMMARY, THE TECHNICAL COMMITTEE FINDINGS AND CONCLUSIONS ARE:

1) **Criterion I**
The unregulated practice of the occupation or profession can harm or endanger the health, safety or welfare of the public and the potential for such harm is recognizable and not remote. The technical committee determined that "There is no documented evidence known to us of safety issues in sleep diagnostic laboratories." Criterion I is not met.

2) **Criterion II**

The practice of the occupation or profession requires an identifiable body of knowledge or proficiency in procedures, or both, acquired through a formal period of advanced study or training; and the public needs, and will benefit by assurances of initial and continuing occupational or professional ability. The technical committee determined "It seems to be acceptable for there to be a formal period of training, a particular type of advanced knowledge, or on-the-job training, so it seems ... that we're moving in the direction of if on-the-job training is acceptable to the medical director of a particular lab, that the State should not credential." Criterion II is not met.

3) **Criterion III**

If the practice of the occupation or profession is performed, for the most part, under the direction of other health care personnel or inpatient facilities providing health care services, such arrangement is not adequate to protect the public from persons performing noncredentialed functions and procedures. Information provided indicates that services provided by the Polysomnographic Technologists are, for the most part, not under the direction of other health care personnel but are performed independently. Evidence was provided which indicates that this arrangement is not adequate to protect the public from harm. The technical committee determined that the arrangement of having a Medical Director is adequate to protect the public. "Many doctors, clinics... their X-ray techs and sometimes their lab personnel don't have any formal training. They're not credentialed.... It's all under the medical director's license, so that person is ultimately responsible to make sure that the people they hire provide adequate and good care... this would be similar to that type of set-up." Therefore, Criterion III is not met.

4) **Criterion IV**

The public is not effectively protected from harm by certification of members of the occupation or profession or by means other than credentialing. This criterion is recognized as asking for documentation on why registration and certification or other less regulatory means are not effective in protecting the public from harm. The technical committee determined that evidence was provided which indicates that the level of credentialing of registration or certification is not adequate to protect the public from harm. "We find Criterion IV not met because the public is effectively protected from harm by means other than credentialing that means being the licensure and supervision by the medical director." Thus, Criterion IV is not met.

5) **Criterion V**

The effect of credentialing of the occupation or profession on the cost of health care to the public is minimal. The committee discussed that there is not enough evidence either way, that it would affect the cost or that it would not. Therefore, Criterion V is not met.

6) **Criterion VI**

The effect of credentialing of the occupation or profession on the availability of health care personnel providing services provided by such occupation or profession is

minimal. The technical committee discussed the effect of credentialing Polysomnographic Technologists and decided that it will not be minimal, that it will adversely affect rural Kansas. Criterion VI is not met.

7) **Criterion VII**
The scope of practice of the occupation is identifiable. The Technical Committee generally discussed and found considerable evidence that the scope of practice is identifiable. Criterion VII is met.

8) **Criterion VIII**
The effect of credentialing of the occupation or profession on the scope of practice of other health care personnel, whether or not credentialed under state law, is minimal. From the information provided, it appears that credentialing of Polysomnographic Technologists would have minimal effect on the scope of practice of other health care personnel. Four of the six Committee members voted that Criterion VIII was not met. Two Committee members voted that Criterion VIII was met. By the majority of the votes, Criterion VIII is not met.

9) **Criterion IX**
Nationally recognized standards of education or training exist for the practice of Polysomnographic Technologists and are identifiable. Criterion IX is met.

The Secretary of Health and Environment's Findings, Conclusions and Recommendations Are:

After consideration of the technical committee's report, and the evidence and testimony presented to the committee, I concur with the technical committee's findings and conclusions. I find that Criteria 7 and 9 are met by the Applicant. Criteria 1, 2, 3, 4, 5, 6 and 8 are not met by the Applicant. Based on the findings that not all nine Criteria were met, credentialing of the profession to protect the public from the documented harm is not appropriate at this time.

Susan Mosier, MD, Secretary
Kansas Department of Health and Environment

Date 8/13/15

REPORT OF THE

TECHNICAL COMMITTEE

ON THE APPLICATION FOR CREDENTIALING

OF

THE POLYSOMNOGRAPHIC TECHNOLOGISTS

EXECUTIVE SUMMARY OF THE TECHNICAL COMMITTEE ON THE REVIEW OF THE APPLICATION FILED BY THE KANSAS ASSOCIATION OF SLEEP PROFESSIONALS TO CREDENTIAL POLYSOMNOGRAPHIC TECHNOLOGISTS
July 10, 2014 – FINAL FINDINGS AND RECOMMENDATIONS

On July 10, 2014, six (6) members of the Technical Committee were present during the Final Findings and Conclusions meeting on the review of the application filed by the Kansas Association of Sleep Professionals to credential Polysomnographic Technologists.

1) FINAL FINDINGS OF THE TECHNICAL COMMITTEE

A) The members of the Technical Committee thoroughly reviewed each criterion as set forth in K.S.A. 65-5006 and concluded that Criteria 7 and 9 were met by the Applicant. The members concluded that Criteria 1, 2, 3, 4, 5, 6 and 8 were not met by the Applicant.

B) VOTE OF THE TECHNICAL COMMITTEE FOR EACH CRITERION:

Criterion I
The unregulated practice of Polysomnographic Technologists can harm or endanger the health, safety, or welfare of the public and the potential for such harm is recognizable and not remote.

The members of the Technical Committee voted unanimously that Criterion 1 was not met by Applicant.

Criterion II
The practice of Polysomnographic Technologists requires an identifiable body of knowledge or proficiency in procedures, or both, acquired through a formal period of advanced study or training, and the public needs and will benefit by assurances of initial and continuing occupational or professional ability.

Five members of the Committee voted that Criterion II was not met by Applicant. One member voted that Criterion II was met.

Criterion III
If the practice of the Polysomnographic Technologists is performed, for the most part, under the direction of other health care personnel or inpatient facilities providing health care services, such arrangement is not adequate to protect the public from persons performing non-credentialed functions and procedures.

The members of the Committee voted unanimously that Criterion III was not met by Applicant.

Criterion IV

The public is not effectively protected from harm by certification of members of the

occupation or profession or by means other than credentialing.

The members of the Committee voted unanimously that Criterion IV was not met.

Criterion V

The effect of credentialing of Polysomnographic Technologists on the cost of health care to the public is minimal.

The Committee members voted unanimously that criterion V was not met by Applicant.

Criterion VI

The effect of credentialing of Polysomnographic Technologists would have on the availability of health care personnel providing services provided by such occupation or profession is minimal.

The members of the Committee voted unanimously that Applicant did not meet Criterion VI.

Criterion VII

The scope of practice of Polysomnographic Technologists is identifiable.

The members of the Committee voted unanimously that Applicant met Criterion VII.

Criterion VIII

The effect of credentialing of Polysomnographic Technologists on the scope of practice of other health care personnel, whether or not credentialed under state law, is minimal.

Four (4) of the six (6) Committee members voted that Criterion VIII was not met. Two (2) Committee members voted that Criterion VIII was met. By the majority of the votes, Criterion VIII was not met.

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Criterion IX

Nationally recognized standards of education and training exist for the practice of the occupation or profession and are identifiable.

The members of the Committee voted unanimously that Criterion IX was met by the Applicant.

2) RECOMMENDATIONS OF THE TECHNICAL COMMITTEE:

A) Criminal Background checks: The Technical Committee concluded that although not all the nine criteria were met, they recommended criminal background checks be performed upon hiring Polysomnographic Technologists and annually throughout their employment.

B) Non-Governmental Certification and Education - The Committee also recommends Polysomnographic Technologists in Kansas pursue available educational opportunities in this field, be certified by a non-government association, and seek continuing education.

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

Final Findings and Recommendations of the Technical Committee on the Review of the Application by the Kansas Association of Sleep Professionals to Credential Polysomnographic Technologists
July 10, 2014

On April 3, 2012, the Kansas Department of Health and Environment (KDHE) received from the Kansas Association of Sleep Professionals an application for credentialing of the Polysomnographic Technology profession (Applicant).

This application was reviewed by a Technical Committee in accordance with the Kansas Act on Credentialing (K.S.A. 65-5001 *et seq.*). The purposes of the review are to: (1) provide the Legislature with a thorough analysis of the application and information gathered at the Technical Committee meetings and public hearing; (2) make recommendations as to whether the statutory criteria are met; and (3) determine whether there is a need for credentialing. All criteria must be met before the Technical Committee can make a recommendation for credentialing. The Applicant has the burden of bringing forth clear, convincing evidence that each criterion is met. Such evidence must be more than hypothetical examples or testimonials, pursuant to K.S.A. 65-5003.

This report describes the Technical Committee's final findings and conclusions of the nine statutory criteria pursuant to K.S.A. 65-5006. Final comments from the Applicant representative regarding this application were received by the Technical Committee at the June 12, 2014, public hearing. There were no other comments presented at the public hearing.

The information preceding the Summary of Committee Discussions for each criterion is taken from the application submitted by the Kansas Association of Sleep Professionals.

Criterion I

The unregulated practice of Polysomnographic Technologists can harm or endanger the health, safety, or welfare of the public and the potential for such harm is recognizable and not remote.

Adverse events during polysomnographic procedures could occur due to the failure of the monitoring technologist to properly recognize and respond appropriately to life threatening condition. Examples include:

- serious cardiac arrhythmia
- severe systemic oxygen desaturation
- seizures abnormal neurological activity
- prolonged cessation of breathing

Patients are cared for and monitored during sleep. This is a time when individuals may be vulnerable or incapacitated due to disease states, sleep disorders or medication effects.

Polysomnography is performed in a variety of settings from hospitals, to medical office buildings, to

suburban office parks. While hospital-based facilities may have access to rapid response teams of physicians and nurses, other settings may rely on local EMS to respond to emergencies. Typically, there is one technician to oversee two patients. While medical staff may be available for telephone consultation in out of hospital facilities, they are rarely on site, leaving the technician to recognize, assess and intervene in the event that an emergency arises during the night.

All these factors serve to put consumers of polysomnographic services at possible risk if the attending technician is not properly trained, and that training is verified by competency testing. Regulation and legislation is crucial to assure all persons performing polysomnography meet minimum requirements for education, testing, certification, and have undergone criminal background checks prior to being permitted to practice.

Unless a private lab subjects itself to the standards set forth by a nationally recognized healthcare accrediting body, there are no standards set for staff qualifications. A private lab needs only to meet the guidelines of insurers to run a successful business. Staffing decisions that are favorable to business may not necessarily promote patient safely or help ensure the quality of care.

The State of Kansas is currently without rules that require a standard of care specific to sleep laboratories. Currently, sleep labs are able to grow a business model which potentially values productivity over safety or accuracy diagnosis and treatment. The potential for harm to Kansas residents with sleep disorders is both to their health and to their finances.

If we assume that all sleep labs have good intentions, the potential for harm resides in the fast pace of growth in the field. Over 80 sleep disorders are defined by the International Classification of Sleep Disorders and modes and methods of treatment are growing continuously.

Polysomnography technologists need to keep abreast of developing information in this environment. While a registered technologist is required by the Board of Registered Polysomnographic Technologists (BRPT) to maintain 50 CEU's every 5 years, there is no mandate in Kansas encouraging sleep labs to use registered technologists. Prior to the availability of sleep education programs in Kansas, a considerable number of employees used for sleep testing gained their initial training for sleep in as few as 3 nights. Most training is still performed on the job, though formal education availability is growing to address this need. While the educational availability is growing, no standard is enforced in Kansas of any minimal competence before a person is allowed to perform a sleep study.

It is worth mentioning that sleep technologists frequently work alone in isolated areas. Private sleep labs have been installed in anything from free standing buildings to strip malls and some have even rented out hotel rooms. Studies are performed in patient homes by employee's whose medical education may consisted of no more than a few days of on the job training.

The risks of an unregulated field are real and apparent. Kansas is fortunate to have an active and engaged sleep community where most labs value gaining accreditation as a hallmark of quality. In the interest of equality and standards of care, licensing would formalize and ensure that all Kansans receive professional quality diagnostic testing and therapeutic care.

"Now, sleep tecs work completely independently. When they come into work, they are there all night long,

and they're on their own. And they're the ones who are watching over these patients, and they're the ones who are initiating some forms of treatment on these patients and making those decisions. And they have no backup. If they don't know what they're doing and an adverse event starts to occur, they're not going to recognize it." [Transcript, April 3, 2014, p. 45, ll. 16-25].

"And if they don't recognize it, they won't take action. That's where the problem lies." [Transcript, April 3, 2014, p. 45, l. 25, p. 46, ll. 1-2].

During the April 3, 2014 Applicant's Review meeting a question was asked to the Applicant's Representative whether "one of those procedures or implementations cause harm". Mr. Johns responded "They could...You choose the wrong interface for a patient, and you can cause a buildup of CO2 in their system, which could cause an adverse reaction. You can give someone too much oxygen, which can cause an adverse reaction. You can give someone too much pressure on the CPAP, which could also cause adverse reactions. The likelihood is low, but it could happen". Mr. Johns also stated "There is no real evidence that it's happened." [Transcript, April 3, 2014, PP. 46 and 47].

Excerpt from the Kansas Association of Sleep Professionals letter of November 22, 2013:

> *Documented evidence of safety issues necessitating the credentialing of sleep techs by the state.*
>
> There is no documented evidence known to us of safety issues in sleep diagnostic laboratories. Nearly half of the sleep labs in the state are located in hospital sittings, the remaining are independent free standing diagnostic testing facilities which are located in a number of commercial settings, including shopping centers, hotels, small freestanding offices, surgery centers and physician office complexes. Since all of these facilities monitor patients with personnel that are under the general supervision of a physician, records of sentinel events are not maintained by local medical examiners or state agencies. Anecdotally we know of two deaths in free standing sleep labs.
>
> Although, in a retrospective study of sleep labs in Ohio, that was reported in the journal Sleep, 2004 Nov 1; 27(7):1379-83, adverse event rates in sleep labs are low; however, procedures for handling medical emergencies or adverse events during or after polysomnography are prudent.
>
> Qualified, well trained staff must be considered part of any prudent measure to protect the life and wellbeing of a patient. Currently, there are no provisions in the state of Kansas to ensure the safety of patients undergoing testing or treatment in sleep labs. Without regulation there is no requirement for education or training that would help insure patient safety.

COMMITTEE DISCUSSION:

The Technical Committee recognizes this criterion as asking that the applicant demonstrate that the non-credentialed status of the profession can harm the public and the potential for harm is recognizable and not remote. Considerable discussion took place among committee members concerning the potential for harm during the meetings. During the July 10, 2014 meeting, one of the members referred to November 22, 2013

letter from Applicant stating "There is no documented evidence known to us of safety issues in sleep diagnostic laboratories." [Transcript, July 10, 2014, p. 62, ll. 21 – 25; p. 63, ll. 1 – 22].

FINAL FINDINGS:

The Technical Committee voted unanimously that Criterion I was not met.

Criterion II

The practice of Polysomnographic Technologists requires an identifiable body of knowledge or proficiency in procedures, or both, acquired through a formal period of advanced study or training, and the public needs and will benefit by assurances of initial and continuing occupational or professional ability.

History

The field of Polysomnography has evolved considerably since the discovery of Rapid Eye Movement sleep in 1951 by Dement *et al*. Allan Rechtschaffen and Anthony Kales established the first set of scoring standards used to describe human sleep in 1968, which is the primary standard for the scoring of sleep studies. The first sleep lab in the United States was opened in 1973 at Stanford University. The first organized training program in sleep technology was established in 1979 at Stanford University.

The Association of Polysomnographic Technologists was founded in 1978. The Board of Registered Polysomnographic Technologists (BRPT) administered the first exam for sleep technologists in 1979. The Registered Polysomnographic Technologist (RPSGT) credential is internationally recognized. It requires knowledge of several areas of physiologic monitoring, including proper placement techniques for electrodes and sensors used to monitor sleep, the interpretation of Electroencephalography (EEG), electromyography (EMG), electrooculography (EOG) electrocardiogram (EKG) and respiratory data, and implementation of therapeutic modalities.

Prior to any formal process, polysomnographic technologist receives education in a mercantile fashion, often learning on the job as a trainee under the advisement of either an experienced technician or, if fortunate, under a Registered Technologist. A need for standardized education within the field was recognized. A small crop of schools developed two-week training programs to address the standardization of training. No where else could an interested person find a central education in Polysomnographic education.

Present Education and Training

The Commission on the Accreditation of Allied Health Education Programs (CAAHEP), which accredits educational programs for some 20 different allied health care professions, currently has accredited over 35 programs across the country through the Committee on Accreditation of Polysomnographic Education (CoAPSG) and the Committee on Accreditation on Electroneurodiagnostic Technology (CoA END) that specialize in sleep technology education. An additional12 programs are self accredited by the American Association for Respiratory Care for respiratory therapists.

The American Academy of Steep Medicine (AASM) has developed the Accredited Sleep Technology Education Program (ASTEP), which offers educative topics across several modules to prepare a candidate for entry into the field and eventual registry. In addition to two ASTEP programs in Kansas, Johnson County Community College has initiated an Associate's Degree program for Polysomnography, which started in the fall of 2008, and is now accredited by CAAHEP.

The Kansas Association of Sleep Professionals was formed in recognition of the need for more local attention to continuing education for both public and professionals everywhere in Kansas and offers yearly conferences where professionals gather to update their body of knowledge in sleep medicine.

Generally, the polysomnography technologist is required to know and understand technology for analog and digital recording of the physiologic measurements of sleep, as well as the appropriate application of electrodes and sensors to the patient including but not limited to:

- The International 10/20 System, used for electroencephalograms
- Respiratory induced piesmyography (RIP) belts for monitoring respiratory effort
- Strain gages
- Pulse oximetry for monitoring blood oxygen levels,
- Transcutaneous C02 monitors
- Thermisters, therocouples and pressure transducers for monitoring airflow,
- A modified electrocardiogram,
- Electromyography of the legs, arms and submentalis (chin)
- Electrooculogram
- Piezoelectric crystal technology
- Esophageal balloon placement and monitoring

In addition, polysomnographers must interpret data to make clinical decisions regarding:

- Initiation of appropriate therapeutic procedures including but not limited to body positioning, supplemental oxygen, positive airway pressure therapy and titrations
- Emergency procedures for a number of potentially harmful events, including seizures, REM behavior disorder and cardiac events

Sleep Disorders are under continual research with the National Institute of Health spending $188 million this year on sleep disorders research alone. Untreated sleep disorders have been linked with several other disease conditions such as hypertension, heart arrhythmia, coronary artery disease, and type 2 diabetes. As such, the body of information pertinent to sleep medicine is growing in large steps.

The BRPT recognized the need for continuing education and required its members to acquire 50 continuing education units per five years to renew credentials. These units are typically met in professional conferences and educational seminars, which are held across the nation. Some are available as online education credits, though the number of online credits permitted as part of the 50 is limited.

Perhaps the most common procedure performed by polysomnography technologists is the titration of

PAP devices. This procedure is typically performed according to a pre-approved protocol to help assure the safety of the patient and improve the chance of finding effective therapy; however, the techniques used when choosing to adjust pressures on the patient requires a thorough understanding of the patient's clinical history and present situation. This subtlety is one key area where this field may be considered a 'healing art'.

Two other procedures, the Maintenance of Wakefulness Test (MWT), which is commonly used by the Department of Transportation (DOT) to verify commercial drivers and by the Federal Aviation Authority (FAA) for pilots with diagnosed sleep apnea are treated effectively, and the Multiple Sleep Latency Test (MSLT), which is most commonly used to determine Narcolepsy, are entirely unique to the field of polysomnography and are not paralleled in any other field of health and medicine.

The field of Polysomnography continues to grow as research describes new problems and outlines new treatments. The field grew from a research tool into a unique and distinct field encompassing knowledge from multiple disciplines, for which singular training in any other health field would be insufficient and unacceptable to the public health and safety.

COMMITTEE DISCUSSION:
Discussion took place among Technical Committee members that "training is acceptable and credentialing is not mandatory." [Transcript, July 10, 2014, p. 41, ll. 21 – 23]. One of the members agreed with the first part of the criterion. That it requires an identifiable body of knowledge or proficiency in procedures. [Transcript, July 10, 2014, p. 51, l. 17 – 20]. The Committee recommended to adopt its preliminary findings on this criterion as follows: "It seems to be acceptable for there to be a formal period of training, a particular type of advanced knowledge, or on-the-job training, so it seems to me that we're moving in the direction of if on-the-job training is acceptable to the medical director of a particular lab, that the State should not credential." [Transcript, May 8, 2014, p. 26, ll. 6 – 13].

FINAL FINDINGS:
Five members of the Technical Committee voted that criterion II was not met with one vote dissenting.

Criterion III

If the practice of the Polysomnographic Technologists is performed, for the most part, under the direction of other health care personnel or inpatient facilities providing health care services, such arrangement is not adequate to protect the public from persons performing non-credentialed functions and procedures.

Polysomnography is frequently performed in private lab settings on an out patient basis. Locations of private labs include physician office buildings, nursing homes, strip malls, free standing structures, office parks, hotels and motels, and within the patients own home. Hospital based labs are typically and intentionally located in quiet areas of the hospital campus, away from inpatient floors and other active health care areas or in an adjacent building.

The majorities of persons performing Polysomnography are working independently of other health care personnel and would rely upon the community emergency medical system in the event of an emergency. Members of the public literally place their care and safety into the hands of persons with unknown qualifications and training. The general public places a great deal of trust in those who perform medical procedures and testing, under the assumption that personnel are properly trained, qualified and supervised.

While the great majority of sleep testing is performed on an out-patient basis, in-patients who require sleep testing are escorted to the sleep lab where they are out of sight from other health care team members and totally dependant upon the person performing the procedure.

The risk associated with sleep testing has been found to be low; however, the chance of a sentinel event is increased due to the nature of the concomitant medical conditions, which may compound the patient's risk factors. The public deserves to expect a high standard of qualification and competence from those who provide health care.

COMMITTEE DISCUSSION:
There was discussion by the Committee members prior to the final vote on Criterion III. During the Application Analysis Meeting, May 8, 2014, there was discussion and agreement among the six members present that Criterion III was not met by Applicant as the arrangement of having a Medical Director is adequate to protect the public. "Many doctors, clinics... their X-ray techs and sometimes their lab personnel don't have any formal training. They're not credentialed.... It's all under the medical director's license, so that person is ultimately responsible to make sure that the people they hire provide adequate and good care... this would be similar to that type of set-up." [Transcript, May 8, 2014, p. 29, ll. 12-21].

FINAL FINDINGS:
The Committee voted unanimously that Criterion III was not met.

Criterion IV

The public is not effectively protected from harm by certification of members of the occupation or profession or by means other than credentialing.

Standards for the professional performance of protocols and procedures completed by professional sleep technologists are laid out by the American Academy of Sleep MediCine (AASM) and the American Association of Sleep Technologists (AAST). These standards are mostly voluntary in the State of Kansas. To date, diverse standards tied to reimbursement are laid out by the Centers for Medicare/Medicaid Services and private insurance companies.

Devices used in sleep technology are based on approval by the Food and Drug Administration (FDA). Recommended technology requirements are laid out in the AASM accreditation standards, but again this is voluntary. There is also inconsistent (from company to company) insurance regulation.

Obstructive Sleep Apnea is a common medical problem; if left untreated it can progress into a health or life threatening disease. Standards for technology that help diagnose this near epidemic problem vary greatly. For example, the Center for Medicare Medicaid Services (CMS) has not been able to develop a consistent standard. They currently provide for 4 variations in technological monitoring. Add to this no clear standards for education, training or competencies of persons working in polysomnography, and you can see that Kansans are at risk of receiving less than adequate care.

There are no federal, state or other governmental mechanisms in Kansas at this time that effect the education, training or professional competencies of persons performing sleep testing or titrating therapy.

CMS continues its efforts to create policies affecting sleep technology and sleep medicine. To date these policies vary between CMS regions. Once again the standards set out by the AASM are sporadically enforced by law.

As stated before there is some regulation from private insurance carriers, but it varies greatly from company to company.

At this time the Board of Registered Polysomnographic Technologists (BRPT) awards the RPSGT and CPSGT credentials, along with the National Board for Respiratory Care (NBRC) which awards the Sleep Disorder Specialty (SDS) exam to RRT or CRT credential holders, certifying individuals in polysomnography. The American Society for Electroneurodiagnostic Technologists (ASET) is pursuing education/testing standards in Polysomnography for their organizations.

The Commission on Accreditation of Allied Health Education Programs is currently responsible for accreditation of post secondary level educational programs offering an Associates degree in Polysomnography.

The American Academy of Sleep Medicine operates a training program, based on 80 hours of specialized training, followed by 18 months of on the job training that requires completion of 16 on line educational modules. All training is under the direct supervision of a Registered Polysomnographic Technologist.

The following are the AAST guidelines for Continuing Education Credits and Re-certification:

Re-certification and Continuing Education Requirements

The Board of Registered Polysomnographic Technologists requires ALL RPSGTs to re-certify every 5 years to maintain their credential. Re-certification may be earned either through the accumulation of 50 hours of continuing education, or by re-taking - and passing – the RPSGT examination every 5 years.

Why is there a re-certification requirement for RPSGTs?

The BRPT has a responsibility to the profession and the public to assure that RPSGTs continue their education and keep their skills updated. The BRPT is adhering to best practices for credentialing programs and working to ensure that the RPSGT certification continues to be recognized as the leading

credential for polysomnographic technologists by the medical community, allied health professions, legislative bodies and other regulatory decision-makers, and the public. In a field as dynamic as sleep medicine, it is particularly important that allied-health professionals such as RPSGTs maintain current knowledge and skills to best serve patients.

Can you earn the total number of Continuing Education Hours from any one activity?

There are a number of different types of programs in which you can participate to earn continuing education hours. You may earn all 50 of your credits by attending approved national, regional, state and local sleep related programs. However, there is a maximum number of continuing education hours that can be earned from other types of programs.

Program Type	Maximum #of Accepted Continuing Education Hours for the 50 in 5-Year Recertification Requirement
National, regional, state and local sleep or sleep-related programs, including non-biased manufacturer sponsored courses	50
Approved case conference or in-service programs	10
Reading approved journals or approved magazines (e.g. *A2Zzz),* or material from AAST review courses, with program assessments following the course	15
Online training modules (e.g.webinars, web-based seminars) administered by credit granting organizations with program assessments Following the course	30

Note: This listing of approved continuing education hours and required/allowed credits for recertification may be modified or expanded based on BRPT ongoing review. Check the www.brpt.org web site for updates:

- Pathway #1 - 18 months of experience
- Pathway #2 - 6 months of experience
- Pathway #3- CAAHEP/CoARC graduate
- Pathway #4 - 9 months of experience

Pathway #1- for candidates with 18-months of PSG experience (on-the-job training)

1. Candidates must complete a minimum of 18 months of paid clinical experience where at least 21 hours per week per calendar year of on-the-job duties performed are Polysomnography direct patient recording and/or scoring. Duties must be within a 3-year period prior to the exam.

2. Candidates must complete the AASM A-STEP Self-Study (online) Modules or a BRPT-designated alternate educational program. Proof of completing the modules must be submitted with the application. Acceptable forms of proof are:

    1. Copies of the 14 certificates of completion from each module, or
    2. An official transcript from the AASM.
    3. Candidates must include proof of completing secondary education. Acceptable forms of proof are copies of transcripts or diplomas from high school, GED or equivalent, or college or university education.

Pathway #1 Applicant, here are your next steps on the road to becoming an RPSGT

- Learn about the A-STEP requirement- Changes coming in 2011!
- Read the *RPSGT Candidate Handbook*
- Complete your *RPSGT Exam Application*
- Read *Study Tips* from RPSGTs

Pathway #2- for candidates with 6-months of PSG experience (credentialed health professionals)

1. Candidates must complete a minimum of 6 months of paid clinical experience where at least 21 hours per week per calendar year of on-the-job duties performed are Polysomnography direct patient recording and/or scoring. Duties must be within a 3-year period prior to the exam.
2. Candidates must hold an approved credential.

Pathway #2 Applicant, here are your next steps on the road to becoming an RPSGT:

- Read the *RPSGT Candidate Handbook*
- Complete your *RPSGT Exam Application*
- Read *Study Tips* from RPSGTs

Pathway #3 – Graduates of a CAAHEP and CoARC-Accredited Polysomnographic Technology Program

1. Successfully complete a program in polysomnographic technology accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). This pertains to CAAHEP-accredited programs whether stand-alone or attached to a program in electroneurodiagnostics. The BRPT also accepts programs accredited by the Commission on Accreditation for Respiratory Care (CoARC) with a polysomnography add-on program. For a list of programs, go to the BRPT's Education Webpage.

    1. ***An official transcript documenting graduation from a qualified program must be included with the application.***

Pathway #3 Applicant, here are your next steps on the road to becoming an RPSGT:

- *List of CAAHEP/CoARC-Accredited Programs*

- Read the *RPSGT Candidate Handbook*
- Complete your *RPSGT Exam Application*
- Read *Study Tips* from RPSGTs

Pathway #4 – 9 months of PSG experience and completion of BOTH the AASM A- STEP Self-Study Online Modules, (or a BRPT-designated alternate educational program) *AND* the AASM A-STEP Introductory Course

1. Candidates must complete a minimum of 9 months of paid clinical experience where at least 21 hours per week per calendar year of on-the-job duties performed are Polysomnography direct patient recording and/or scoring. Duties must be within a 3-year period prior to the exam.

2. Candidates must complete the AASM A-STEP Self-Study (online)-Modules or a BRPT-designated alternate educational program. Proof of completing the modules must be submitted with the application. Acceptable forms of proof are:

    1. Copies of the 14 certificates of completion from each module, or
    2. An official transcript from the AASM.
    3. Candidates must include proof of completing secondary education. Acceptable forms of proof are copies of transcripts or diplomas from high school, GED or equivalent, or college or university education.

Pathway #4 Applicant, here are your next steps on the road to becoming an RPSGT:

- *Learn about the A-STEP requirement - Changes coming in 2011*
- Read the *RPSGT Candidate Handbook*
- Complete your *RPSGT Exam Application*
- Read *Study Tips* from RPSGTs

RPSGT Candidates Must ALL:

Hold certification in Basic Cardiac Life Support (BCLS) or the equivalent (international only) that remains current at the time of testing. These programs must include a hands-on practical training evaluation segment and you must provide documentation that shows demonstration of skills.

A copy of the current BCLS card or the equivalent must be included with the application or separately mailed if applying online.

Follow the BRPT Standards of Conduct and Policies and Procedures.

The BRPT randomly audits candidate eligibility and may request additional documentation or validation of clinical experience. The signatory of the experience verification section on the application is responsible for verifying any experience the candidate may have had with a previous employer.

Below lists the areas of competency tested by the BRPT exam and how they are weighted.

RPSGT EXAM BLUEPRINT (Effective March 2010)

DOMAIN I: PRE-STUDY PROCEDURES 15%

TASK 1: Select equipment and montage
- (a) Ensure room is prepared for patient arrival
- (b) Select equipment
- (c) Inspect equipment"
- (d) Resolve equipment issue(s)
- (e) Select montage

TASK 2: Collect and review paperwork
- (a) Review procedure order
- (b) Assess patient history and physical information -
- (c) Clarify discrepancies between order and patient information
- (d) Contact a physician to clarify an order
- (e) Verify patient identity
- (f) Record patient identifier on all documents and systems
- (g) Obtain consent(s)
- (h) Administer pre-sleep (bedtime) questionnaire

TASK 3: Apply sensors
- (a) Identify sensor placements b. Prepare sensor sites
- (b) Apply sensors
- (c) Verify impedances

TASK 4: Educate patients
- (a) Orient patient to the facility
- (b) Explain procedure to patient
- (c) Introduce patient to potential therapy

DOMAIN II: STUDY PERFORMANCE 25%

TASK 1: Calibrate equipment
- (a) Calibrate recording equipment prior to lights out
- (b) Perform physiological calibrations prior to lights out
- (c) Perform physiological calibrations after lights on
- (d) Calibrate recording equipment after lights on

TASK 2: Document during testing a. Document technologist actions
- (a) Document all procedure-related interactions
- (b) Document technologist observations
- (c) Document lights out and lights on time

TASK 3: Identify and respond to data issues
- (a) Identify and respond to artifact
- (b) Identify and respond to equipment problems
- (c) Maintain optimal amplifier settings

TASK 4: Identify and respond to patient needs

(a) Identify and respond to physiological data
(b) Identify and respond to clinical events
(c) Identify and respond to patient needs
(d) Identify and respond to medical emergencies

DOMAIN III: THERAPEUTIC INTERVENTION 25%

TASK 1: Assess need for treatment and intervention

(a) Determine treatment intervention
(b) Select and fit mask/interface

TASK 2: Titrate PAP and oxygen

(a) Titrate CPAP
(b) Titrate Bi-level PAP
(c) Titrate Bi-level PAP with backup rate
(d) Add airway pressure release ventilation (e.g. C-FiexTM, EPRTM)
(e) Titrate supplemental oxygen

TASK 3: Troubleshooting

(a) Identify and resolve titration, mask/interface and leak values
(b) Apply PAP humidification

DOMAIN IV: POST-STUDY PROCEDURES 10%

TASK 1: Remove, clean, and disinfect sensors and interfaces

TASK 2: Perform patient discharge procedures

(a) Ensure completion of patient questionnaires
(b) Explain follow-up care and next steps to patient
(c) Complete technologist summary
(d) Save raw data
(e) Securely store protected patient information
(f) Identify records requiring immediate review and notify physicians
(g) Participate in quality assurance activities

DOMAIN V: SCORING AND DATA ANALYSIS 25%

TASK 1: Staging sleep and arousal

(a) Score sleep stages
(b) Score arousals
(c) Associate arousals with events

TASK 2: Score respiratory events

(a) Score respiratory events
(b) Score desaturations

TASK 3: Score movements

(a) Score periodic limb movements
(b) Score rhythmic movements
(c) Score bruxism

TASK 4: Score cardiac

(a) Score cardiac events

TASK 5: Identify waveform variations and artifact

(a) Identify variations in waveform morphology
(b) Differentiate artifact from physiological data
(c) Identify REM- and NREM-related parasomnia features

TASK 6: Generate report

(a) Verify-accuracy of scored data
(b) Tabulate reporting parameters
(c) Calculate indices
(d) Summarize data
(e) Document and respond to abnormal behavior and findings
(f) Create a report and verify accuracy

TASK 7: Archive data

(a) Verify scored data is saved
(b) Archive study

The 2008-2009 Sleep Medicine directories shows 169 Registered Polysomnographic Technologists in the state of Kansas. The credential RPSGT means an individual has a standard knowledge base and skill set which has been documented by examination. As stated above, if these standards are voluntary there is no way to insure the public is protected.

The American Academy of Sleep Medicine (AASM) develops evidence-based practice parameters that provide physicians with clear recommendations for the evaluation and management of patients with sleep disorders. These parameters are based on current scientific evidence in the medical literature. The AASM re-evaluates the practice parameters every three to five years and publishes updates when necessary.

The American Association of Sleep Technologists works closely with the AASM to assure its standards and practices are consistent and complimentary with their direction and goals.

Sleep Technologists and Respiratory Therapist both use oxygen and positive pressure airway devices in the treatment of patients. The application and rationale for use of these therapies can vary substantially between these 2 professions. It is critical for public benefit and safety that both approaches are available, understood and appropriately administered. The traditional respiratory therapy approach is well established. Standardized training and credentialing in polysomnography and sleep disorders will help to assure the use of these therapies for sleep disorders is beneficial and safe for the public.

COMMITTEE DISCUSSION:
The Committee members referred to what they had discussed during the May 8, 2014 Applicant Analysis meeting citing: "We find Criterion IV not met because the public is effectively protected from harm by means other than credentialing that means being the licensure and supervision by the medical director." [Transcript, July 10, 2014, p. 59, ll. 11 – 17 referring to the May 8, 2014, Meeting]. [Transcript, May 8, 2014, p. 45, l. 25; p. 46, ll. 1 – 4].

FINAL FINDINGS:
The Committee members voted unanimously that Criterion IV was not met.

TECHNICAL COMMITTEE RECOMMENDATION:
The Committee recommends that criminal background checks be performed upon hiring Polysomnographic Technologists and annually throughout their employment.

Criterion V

The effect of credentialing of Polysomnographic Technologists on the cost of health care to the public is minimal.

Traditionally sleep reimbursement is broken down into professional and technical schedules. Licensing of sleep technologists should not affect these fees for services. With the increase in competence that potentially comes with standardized education, training and credentialing, one can make a case for a decrease in the need for second studies thus reducing costs. In the same light patient out comes should improve. Also, with standardized education and competence comes a more uniform salary and wage picture across the state. Income for sleep technologists should increase.

The following is an excerpt from a letter from Blue Cross Blue Shield of Kansas and how they reimburse for sleep studies.

SLEEP STUDY AND POLYSOMNOGRAPHY SERVICES

Reimbursement for sleep study and polysomnography services (CPT codes 95805, 95810 and 95811) will also be tiered in 2004.

The highest MAP reimbursement for these services will be made to providers who have either:

- obtained accreditation by the American Academy of Sleep Medicine (AASM), or
- who are in pursuit of accreditation by AASM.

Those who are not accredited or who are not pursuing accreditation will receive the lower MAP allowance.

Providers who are accredited need to submit to BCBSKS a copy of the certificate issued to them by the American Academy of Sleep Medicine.

Sleep technologists traditionally obtain their wages from the technical portion of the fee schedules mentioned above. The day to day operating expenses of a sleep center must also be deducted from this reimbursement.

There should be no change to the payment schedules. The public should receive improved, more consistent sleep health care with no change in cost. Licensing fees will come from the technologists. Any possible increase in wages would come from redistribution of the technical reimbursement fee mentioned previously.

Excerpt from the Kansas Association of Sleep Professionals letter of November 22, 2013:

The impact of credentialing on cost/reimbursement for sleep tests

In the October issue of Sleep Review Magazine, Allied Media, Overland Park, KS, a national survey reports earnings of Registered Polysomnographic Technologists in our region of the country, to be $47-51,000 per year. There was no information on un-registered persons performing sleep services in Kansas; however the national median was $43,500-57,000 per year. As you will note, the average pay scale is comparable, thus we feel there will be little if any cost impact on employers, insurers or patients.

COMMITTEE DISCUSSION:
The Committee discussed that there is not enough evidence either way, that it would affect the cost or that it would not. [Transcript, July 10, 2014, p. 56, ll. 19 -24]. One of the committee members stated that credentialing may not have much of an impact on what insurance companies are going to reimburse. [Transcript, July 10, 2014, p. 57, ll. 1 – 3].

A hospital or storefront facility would experience higher expenses, so those costs would be filtered down to the patient. [Transcript, July 10, 2014, p. 57, ll. 12-20].

FINAL FINDINGS:
The Committee members voted unanimously that Criterion V was not met.

Criterion VI

The effect of credentialing of Polysomnography Technologists would have on the availability of health care personnel providing services provided by such occupation or profession is minimal.

The Kansas Association of Sleep Professionals recognizes the hardships and difficulties of recruiting medical and health care specialists to rural Kansas communities. We see this trend in Polysomnography continuing with or without the proposed sleep licensing bill. Ever increasing numbers of private insurance-companies are requiring AASM Accreditation for reimbursment. This trend is being seen for CMS reimbursement nationally, although not mandated in Kansas to date. A Diplomat of the American Board of Sleep Medicine is required for AASM Acreditation. These physicians are scarce and typically practice in large population areas. For these reasons we do not anticipate credentialing/licensing to affect technologist availability. The professional recognition that

would accompany Kansas state licensing may attract increased interest in the field of Polysomnography, and actually increase the available qualified technologists.

COMMITTEE DISCUSSION:

The Technical Committee discussed the effect of credentialing Polysomnographic Technologists and decided that it will not be minimal, that it will adversely affect rural Kansas. [Transcript, July 10, 2014, p. 54, ll. 16 – 23].

If the Polysomnographic Technologists are to be credentialed, it would make fewer personnel in rural Kansas, and that would be more than minimal. Another member said it will "Make it worse". [Transcript, July 10, 2014, p. 55, ll. 1 – 5].

FINAL FINDINGS:
The Committee members voted unanimously that Applicant did not meet Criterion VI.

Criterion VII

The scope of practice of Polysomnographic Technologists is identifiable.

Quoted from: 2007 American Association of Sleep Technologists. AAST Scope of Practice of the Sleep Technology Profession. A2Zzz 2007;16(4):10-12.

Introduction

Sleep Technology, also called Polysomnographic Technology, is a separate and distinct, multidisciplinary, allied health-care occupation embracing a unique body of knowledge and methodological skills. Overnight polysomnography is a standard tool in Sleep Medicine for evaluating sleep-related pathophysiology, sleep architecture, and sleep integrity. Specifically, it is a complex evaluation used as a quantitative measurement of multiple physiological parameters during sleep, combined with expert observational reporting. Sleep technologists, technicians and trainees are the technical group specially trained to perform polysomnography and other technical evaluations used for the diagnosis and treatment of sleep/arousal disorders. They are health-care professionals who work as part of a team under the general supervision of a licensed physician to assist in the education, evaluation, treatment and follow up of sleep disorders patients of all ages. They follow accepted standards of care, including American Academy of Sleep Medicine (AASM) Practice Parameters, which are the foundation for clinical/technical decision-making and for provision of patient-sensitive care. This profession employs a unique set of diagnostic tools used in the interest of establishing diagnoses and developing future therapeutic interventions, which require expertise in the specialty of Sleep Medicine.

Scope of Practice

Instrumentation

The practice of polysomnography requires thorough familiarity with and proficiency in the use of specialized instruments and observations used to record a variety of parameters during sleep and

wakefulness. These instruments and observations include, but are not limited to:

- Electrical potentials from brain using the Intemationa/10-20 System of Electrode Placement (EEG)
- Electrical potentials from the eyes (EOG)
- Electrical potentials from skeletal muscles (EMG)
- Nasal and oral airflow
- End tidal or transcutaneous pC02
- Esophageal pressure
- Respiratory effort from a variety of methods including inductance plethysmography, piezo-electric belts, strain gauges, and electrical potentials from the diaphragm and accessory respiratory muscles
- Pulse oximetry
- Electrocardiogram
- Esophageal pH- Wrist actigraphy
- Audiovisual monitoring of wake and sleep movements, vocalizations, respiratory sounds, and body positions
- Patient self-report measures prior to and following study procedures, and patient communication of critical events occurring during study procedures including, but not limited to, hypnagogic or hypnopompic hallucinations, sleep paralysis, and nocturnal panic attacks.

Performance of Polysomnography

The sleep technologist, technician and trainee (under general supervision) are responsible for the initiation and completion of overnight and daytime polysomnography, as well as Multiple Sleep Latency Testing (MSLT) and Maintenance of Wakefulness Testing (MWT). The sleep technologist performance duties include:

- Ensuring instrumentation is properly functioning
- Completing required equipment and patient signal calibrations at beginning and end of the study
- Running continuous polysomnographic monitoring
- Responding to and correcting any equipment malfunction
- Recognizing and correcting artifacts in physiological and transduced signals
- Performing on-line monitoring and analysis of the polysomnogram, including sleep staging and notation of events including EEG arousals, variations in respiratory effort and airflow, changes in cardiac rate and/or rhythm, periodic limb movements, stereotypical body movements, vocalizations, and other physiologic and behavioral events
- Instantly recognizing sleep stages and wakefulness from the polysomnogram for proper performance of MSLT and MWT procedures, and ensuring patient wakefulness between testing bouts
- Maintaining a log of study events and interventions
- Maximizing patient comfort and safety throughout laboratory testing
- Recognizing, documenting and characterizing clinical and electrographic seizures
- Performing cognitive testing during clinical seizures
- Performing evaluations of excessive sleepiness and ability to maintain wakefulness
- Recognizing and responding to critical events occurring during polysomnographic monitoring of cardiac arrhythmias, oxygen desaturation, chest pain, breathing distress, seizures or other

abnormal EEG activity with or without significant motor activity, potentially violent and injurious behaviors such as sleepwalking and REM sleep behavior disorder, and other potential medical emergencies
- Performing or assisting with basic cardiopulmonary resuscitation if required, and ensuring the simultaneous alerting of on-call responders (e.g., hospital "code team") or emergency services personnel

The practice of Sleep Technology includes performing the following tasks during sleep studies upon the order and under the general supervision of a physician licensed by the State Board of Medicine:

- Application and titration of non-invasive, bi-level or continuous positive airway pressure devices and/or supplemental low flow oxygen in spontaneously breathing patients during sleep studies
- Application and monitoring of pulse oximetry during sleep studies
- Performing testing techniques to assist in diagnosis, monitoring, treatment and research of sleep and waking disorders including, but not limited to, overnight attended polysomnography, Multiple Sleep Latency Testing, and Maintenance of Wakefulness Testing
- Developing future therapeutic interventions under the direction of the licensed physician and according to established protocols including positive airway pressure titration and oxygen titration

Professional Education

The scope of the profession of Sleep Technology includes engagement in various educational efforts. These are necessary for successful completion of professional duties and require:

- Working knowledge of the pathophysiology and behavior changes associated with sleep/arousal disorders
- Understanding of the sleep-induced changes in the physiology of various body systems including, but not limited to, the neurological/musculoskeletal, cardiac, respiratory, and thermoregulatory systems
- Working knowledge of the effects of medications on sleep architecture and physiology
- Demonstration of competency in the field of Sleep Medicine and performance of polysomnography.
- Completion of an accredited training program is currently recommended, but will be required when an adequate number of programs exist.
- Certification by the Board of Registered Polysomnographic Technologists (BRPT) demonstrates this competency and should be accomplished
- Participation in continuing education each year to advance personal excellence and to promote excellence of sleep center activities and the field of Sleep Medicine
- Participation in the education of other sleep technologists, technicians and trainees
- Participation in ongoing programs of self-assessment, quality assurance, and quality improvement of the sleep center laboratory and related programs
- Obtaining and maintaining competence in the performance of basic cardiopulmonary resuscitation (CPR)

Patient Care and Education

The sleep technologist, technician and trainee are responsible for the care, comfort and safety of the patient undergoing polysomnography. These responsibilities, as well as the successful completion of the study, require an understanding of the patient's sleep and other medical problems, including medications. If directed by the supervising physician, the sleep technologist may:

- Interact with the patient throughout the evaluation to assure patient comfort and safety, and to promote patient understanding of and compliance with all procedures including application of polysomnographic sensors, audiovisual monitoring, and CPAP and oxygen titration
- Review the patient's clinical history to thoroughly understand the patients sleep related problems
- Obtain and record the patient's vital signs such as weight, height, neck circumference and blood pressure
- Help patients develop sleeping habits that promote good sleep hygiene
- Ensure verification of patient identification

Communication

The practice of polysomnography requires interactions with numerous individuals including the patient, members of the patient's family, the Sleep Medicine physician, and other technologists and physicians. Proficient communication skills are necessary for the successful completion of polysomnography. The sleep technologist, technician or trainee:

- Communicates with the physician through various modes including oral conversations, written logs and electronic logs about the course of the polysomnographic study, significant findings and observations, and interventions used and results of those interventions
- Communicates with the patient in a professional, caring and compassionate manner to address questions and concerns, to obtain information concerning sleep and medical problems, and to explain study procedures and interventions
- Communicates with nighttime coworkers to provide or seek help in resolving recording or intervention issues, and with daytime coworkers who may take over the study as to the course of the study, including information concerning the patient, significant findings and interventions
- Maintains confidentiality in compliance with HIPAA regulatory standards

Additional Tasks

The sleep technologist may perform other tasks and duties within his or her specific skill set including, but not limited to:

- Administer and manage a sleep center, sleep lab, or other Sleep Medicine practice including patient scheduling; material and supply management; supervision of staff, students or ancillary personnel; development of policies and procedures; fiscal management and billing; preventative maintenance; and data management.
- Quality assessment including, but not limited to, data collection, reporting mechanisms, trending, procedural compliance, committee meetings, departmental review, problem-focused

studies, problem solving, interventions, documents and process oversight.

- Educational: clinical and didactic teaching, training, raising public awareness, and facilitating patient support groups related to sleep disorders.
- Conduct and participate in departmental, hospital-wide, and university- sponsored basic and clinical research projects.

COMMITTEE DISCUSSION:
The Technical Committee generally discussed and found considerable evidence that the scope of practice is identifiable.

FINAL FINDINGS:
The six members of the Technical Committee voted unanimously that Applicant met criterion VII.

Criterion VIII

The effect of credentialing of Polysomnographic Technologists on the scope of practice of other health care personnel, whether or not credentialed under state law, is minimal.

Polysomnography/sleep technology is recognized as a multi-disiplinary field that does over lap other health care professions. The sleep technologists licensing bill is drafted to insure that all persons working in this field have a minimum standard of education and training. The bill sets up a "council" that advises the Kansas Board of Healing Arts. The bill assigns licensing appropriateness of credentials, education and training standards to be ultimately determined by the Kansas Board of Healing Arts. It is the intent of the Kansas Association of Sleep Technologists in drafting this bill to minimally affect other health care personnel. It is worth reiterating that this bill does not set out who can practice polysomnography; this is intentionally left to be decided by the Board of Healing Arts. It is the sole intent of this bill that all persons practicing sleep technology have a minimum level of education and training. This standard is also over seen by the Board.

COMMITTEE DISCUSSION:
The Committee discussed this Criterion is focusing on the effect of credentialing in the scope and practice of other health care personnel. [Transcript, July 10, 2014, p. 20; ll. 16 – 20]. One member stated that this criterion would say that there is a minimal effect upon a physician or a nurse. For example Nurse Joan, who has worked in the health industry for 30 years, is less competent and capable to do something like this than someone who went and got two years of training at Johnson County Community College. [Transcript, July 10, 2014, p. 2, ll. 17 – 25]. A couple of members stated that they would have liked to see one test performed by a Polysomnographic Technologist to see what it is that they are really doing.

One member questioned the lack of evidence that the level of training is not already good enough because the medical director who hires the Polysomnographic Technologist is taking all the risk with their license. [Transcript, July 10, 2014, P. 30, ll. 4 – 8].

FINAL FINDINGS:
Four of the six Committee members voted that Criterion VIII was not met. Two Committee members voted that Criterion VIII was met.

Criterion IX

Nationally recognized standards of education and training exist for the practice of the occupation or profession and are identifiable.

Educational programs in sleep technology have followed standards for education and training set forth by the American Association of Sleep Technologists, American Academy of Sleep Medicine, American Association of Respiratory Care and American Association of Electroneurodiagnostic Technology. Programs are accredited by the Commission on Accreditation of Allied Health Education Programs.

Commission on Accreditation of Allied Health Education Programs

Standards and Guidelines for the Polysomnographic Technology Profession

Standards initially adopted in 2004 by the:

American Association of Sleep Technologists (formerly APT)
American Academy of Sleep Medicine
Board of Registered Polysomnographic Technologists
Commission on Accreditation of Allied Health Education Programs

The Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredits programs upon the recommendation of the Committee on Accreditation for Polysomnographic Technology (CoA-PSG). These accreditation Standards are the minimum standards of quality used in accrediting programs that prepare individuals to enter the polysomnographic technology profession. The accreditation Standards constitute the minimum requirements to which an accredited program is held accountable.

Standards are printed in regular typeface in outline form. Guidelines are printed in italic typeface in narrative form.

Preamble

The Commission on Accreditation of Allied Health Education Program, the American Association of Sleep Technologists (formerly APT), the American Academy of Sleep Medicine (AASM), and the Board of Registered Polysomnographic Technologists (BRPT) cooperate to establish, maintain and promote appropriate standards of quality for educational programs in polysortmographic technology and to provide recognition for educational programs that meet or exceed the minimum standards outlined in these accreditation Standards. Lists of accredited programs are published for the information of students, employers, educational institutions and agencies, and the public.

These standards are to be used for the development, evaluation and self analysis of polysomnographic technology programs. On site review teams assist in the evaluation of a program's relative compliance with the accreditation Standards.

Description of the Profession

Polysomnographic technologists perform sleep diagnostics working in conjunction with physicians to provide comprehensive clinical evaluations that are required for diagnosis of sleep disorders. By applying non-invasive monitoring equipment, the technologist simultaneously monitors EEG (electroencephalography), EOG (electro-occulography), EMG (electromyography), EGG (electrocardiography), multiple breathing variables and blood oxygen levels during sleep. Interpretive knowledge is required to provide sufficient monitoring diligence to recording parameters and the clinical events observed during sleep. Technologists provide supportive services related to the ongoing treatment of sleep related problems. The professional realm of this support includes guidance on the use of devices for the treatment of breathing problems during sleep and helping individuals develop sleeping habits that promote good sleep hygiene.

I. Sponsorship

A. Sponsoring Educational Institution

A sponsoring institution must be one of the following:

1. A post-secondary academic institution accredited by an institutional accrediting agency that is recognized by the U.S. Department of Education and authorized under applicable law or other acceptable authority to provide a post-secondary program, which awards a minimum of a certificate/diploma at the completion of the program.

2. A foreign post-secondary academic institution acceptable to CAAHEP. It is recommended that an associate degree or higher be awarded at the completion of the program and that certificate/diploma programs serve students who already possess or will simultaneously receive an associate degree or higher.

Consortium Sponsor

3. A consortium sponsor is an entity consisting of two or more members that exists for the purpose of operating an educational program. In such instances, at least one of the members of the consortium must meet the requirements of a sponsoring institution as described in I. A.

4. The responsibilities of each member of the consortium must be clearly documented as a formal affiliation agreement or memorandum of understanding, which includes governance and lines of authority.

B. Responsibilities of Sponsor

The Sponsor must assure that the provisions of these Standards are met.

II. Program Goals

A. Program Goals and Outcomes

There must be a written statement of the program's goals and learning domains consistent with and responsive to the demonstrated needs and expectations of the various communities of interest served by the educational program. The communities of interest that are served by the program include, but are not limited to, students, graduates, faculty, sponsor administration, employers, physicians, the public, and nationally accepted standards of roles and functions

Program-specific statements of goals and learning domains provide the basis for program planning, implementation and evaluation. Such goals and learning domains must be compatible with both the mission of the sponsoring institution(s) and the expectations of the communities of interest. Goals and learning domains are based upon the substantiated needs of health care providers and employers, and the educational needs of the students served by the educational program.

Nationally accepted roles and functions in polysomnographic technology are reflected in what is being done by polysomnographic technologists in the workplace (the Board of Registered Polysomnographic Technologists (BRPT) Job Analysis) and the material covered in the appropriate national credentialing examination(s) (BRPT Examination Matrices), and the most recent version of the Association of Polysomnographic Technologists standard curriculum.

B. Appropriateness of Goals and Learning Domains

The program must regularly assess its goals and learning domains. Program personnel must identify and respond to changes in the needs and/or expectations of its communities of interest.

An advisory committee, which is representative of these communities of interest, must be designated and charged with the responsibility of meeting at least annually, to assist program and sponsor personnel in formulating and periodically revising appropriate goals and learning domains, monitoring needs and expectations, and ensuring program responsiveness to change.

C. Minimum Expectations

The program must have the following goal defining minimum expectations: "To prepare competent entry-level polysomnographic technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains".

Programs adopting educational goals beyond entry-level competence must clearly delineate this intent and provide evidence that all students have achieved the basic competencies prior to entry into the field.

Programs are encouraged to consider preparing advanced level or specialized practitioners.

III. Resources

A. Type and Amount

Program resources must be sufficient to ensure the achievement of the program's goals and outcomes. Resources include, but are not limited to: faculty, clerical/support staff, curriculum, finances, offices, classroom/laboratory facilities, ancillary student facilities, clinical affiliations, equipment/supplies, computer resources, instructional reference materials, and faculty/staff continuing education.

Clinical affiliates should conform to professional standards of practice, standards established by the American Academy of Sleep Medicine and by other health care accrediting entities where applicable. Clinical affiliales should insure that students have appropriate access to and interaction with other related health care personnel and agencies.

Learning resources should be available to students outside of regular classroom hours, e.g. evenings and weekends. This should conform to the operational plans and standards of the participating sponsor. Instructional plans should promote student utilization of these resources.

B. Personnel

The sponsor must appoint sufficient faculty and staff with the necessary qualifications to perform the functions identified in documented job descriptions and to achieve the program's stated goals and outcomes.

1. **Program Director**

a. Responsibilities

The Program Director must be responsible for the continuous review, planning, development, and general effectiveness of the program. The Program Director has primary responsibility for the organization and administration of the program as well as provision of input and participation in all aspects of the program.

The Program Director should pursue ongoing formal training designed to maintain and upgrade his/her professional, instructional and administrative capabilities.

b. Qualifications

The Program Director must possess at least an associate degree, be a Registered Polysomnographic Technologist (RPSGT) and have a minimum of two years clinical experience as a practicing polysomnographic technologist.

2. **Medical Director**

a. Responsibilities

The Medical Director of the program must ensure that the medical components of the curriculum, both didactic and supervised clinical practice, meet current standards of medical practice.

The Medical Director must also assure physician instructional involvement in the training of polysomnographic technologists. The Medical Director should promote the cooperation and support of practicing physicians.

b. Qualifications

The Medical Director must be a licensed physician with recognized qualifications within the profession of sleep disorders medicine. The Medical Director should be certified by the American Board of Sleep Medicine with an active practice in sleep medicine.

3. **Faculty and/or Clinical instructional Staff**

a. Responsibilities

In classrooms, laboratories, and all clinical facilities where a student is assigned, there must be a qualified individual(s) clearly designated as liaison(s) to the program to provide instruction, supervision, and timely assessments of the student's progress in meeting program requirements.

b. Qualifications

Instructors must be knowledgeable and appropriately credentialed in subject matter by virtue of training and experience, and effective in teaching assigned subjects.

C. Curriculum

- The curriculum must ensure the achievement of program goals and learning domains.
- Instruction must be an appropriate sequence of classroom, laboratory and clinical activities.
- Instruction must be based on clearly written course syllabi describing learning goals, course objectives and competencies required for graduation.

The following general education requirements are suggested in order to help students achieve success with these required learning objectives:

General Education Competencies:

1. written and oral communication
2. mathematics
3. computer skills including keyboard entry, word processing

4. social and behavioral sciences
5. critical thinking skills
6. evidence based scientific literature and technology assessment

Basic Science and Technical Knowledge

7. human anatomy and physiology, with emphasis on cardiopulmonary and neurological systems
8. basic physics
9. basic pharmacology
10. electricity and electronics

Fundamentals of Patient Care Competencies

11. medical terminology
12. patient care principles
13. ethical and medical-legal issues
14. infection control
15. Basic Cardiac Life Support (BCLS)

Polysomnographic Technology content areas

16. polysomnographic instrumentation
17. sleep/wake physiology and pathophysiology
18. patient and equipment preparation for polysomnography
19. patient monitoring
20. patient safety
21. polysomnographic procedures
22. therapeutic intervention
23. polysomnographic data analysis and reporting
24. professional development

D. Resource Assessment

The program must, at least annually, assess the appropriateness and effectiveness of the resources described in these standards. The results of resource assessment must be the basis for ongoing planning and appropriate change. An action plan must be developed when deficiencies are identified in the program resources. Implementation of the action plan must be documented and results measured by ongoing resource assessment.

Other dimensions of the program may merit evaluation as well, such as the admission criteria and process, the curriculum design, and the purpose and productivity of the Advisory Committee.

Student and faculty evaluations of resources are a method for assessing resources. The format for resource assessment documents should be:

- Purpose statements;
- Measurement systems;
- Dates of measurement;
- Results;
- Analyses;
- Action plans;
- Follow-up.

IV. Student and Graduate Evaluation/Assessment

A. Student Evaluation

1. Frequency and purpose

Evaluation of students must be conducted on a recurrent basis and with sufficient frequency to provide both the students and program faculty with valid and timely indications of the students' progress toward and achievement of the competencies and learning domains stated in the curriculum.

The evaluation system should provide each student and the program with a thorough analysis of the student's knowledge, performance-based strengths and areas needing improvement.

Valid means that the evaluation methods chosen are consistent with the competencies and objectives being tested, and are designed to measure stated objectives at the appropriate level of difficulty.

Methods used to evaluate clinical skills and behaviors should be consistent with stated performance expectations and designed to assess competency attainment accurately and reliably.

Students should have adequate time to correct identified deficiencies in knowledge and/or performance. Guidance should be available to help students understand course content, to comply with program practices and policies, and to provide counseling or referral for problems that may interfere with their progress through the program. Students should be eligible for all services offered by the educational institution.

2. Documentation

Records of student evaluations must be maintained in sufficient detail to document learning progress and achievements.

B. Outcomes

1. Outcomes Assessment

The program must periodically assess its effectiveness in achieving its stated goals and learning domains. The results of this evaluation must be reflected in the review and timely revision of the program.

Outcomes assessments include, but are not limited to: national credentialing examination performance, programmatic retention/attrition, graduate satisfaction, employer satisfaction, job (positive) placement, and programmatic summative measures. The program must meet the outcomes assessment thresholds.

Programmatic summative measures, if used, should contribute to assessing effectiveness in specific learning domains. "Positive Placement" means that the graduate is employed full or part-time in a related field; and/or continuing his/her education; and/or serving in the military.

In an effort to keep programmatic attrition below the established CoAPSG threshold, the program should provide objective, success-related admissions standards, and/or prerequisites, and effective methods of assessing basic academic skills for all prospective students. Prospective students should be admitted to the program after having demonstrated at least a minimum acceptable level of academic skills performance.

Programs not meeting the established "Thresholds of Success" set by the CoAPSG, will begin a dialogue with the CoAPSG to develop an appropriate plan of action to respond to the identified shortcomings.

2. Outcomes Reporting

The program must periodically submit its goal(s), learning domains, evaluation systems (including type, cut score, validity and reliability), outcomes, its analysis of the outcomes and an appropriate action plan based on the analysis.

The program should maintain records of evaluations of the effectiveness of its action plan(s).

V. Fair Practices

A. Publications and Disclosure

1. Announcements, catalogs, publications and advertising must accurately reflect the program offered.

2. At least the following must be made known to all applicants and students: the sponsor's institutional and programmatic accreditation status as well as the name, address and

phone number of the accrediting agencies; admissions policies and practices; policies on advanced placement, transfer of credits, and credits for experiential learning; number of credits required for completion of the program; tuition/fees and other costs required to complete the program; policies and processes for withdrawal and for refunds of tuition/fees.

3. At least the following shall be made known to all students: academic calendar, student grievance procedure, criteria for successful completion of each segment of the curriculum and graduation, and policies and processes by which students may perform clinical work while enrolled in the program.

B. Lawful and Non-discriminatory Practices

All activities associated with the program, including student and faculty recruitment, student admission, and faculty employment practices, must be non discriminatory and in accord with federal and state statutes, rules, and regulations. There must be a faculty grievance procedure made known to all paid faculty.

In accordance with the Americans for Disabilities Act (ADA) and other governmental regulations, technical standards that define the essential functions of polysomnographic technology may be published and used in the lawful and non-discriminatory admission of students.

C. Safeguards

The health and safety of patients, students and faculty associated with the educational activities of the students must be adequately safeguarded. All activities required in the program must be educational, and students must not be substituted for staff.

D. Student Records

Satisfactory records must be maintained for student admission, advisement, counseling and evaluation. Grades and credits for courses must be recorded on the student transcript and permanently maintained by the sponsor in a safe and accessible location.

E. Substantive Change

The sponsor must report substantive change(s) as described in Appendix A to AAHEP/GoAPSG in a timely manner. Additional substantive changes to be reported to the GoAPSG within the time limits prescribed include:

- Vacancy in required personnel
- Significant curriculum revision(s)

F. Agreements

There must be a formal affiliation agreement or memorandum of understanding between the sponsor and all other entities that participate in the education of the students describing the

relationship, role and responsibilities between the sponsor and that entity.

Appendix A

Application, Maintenance and Administration of Accreditation

A. Program and Sponsor Responsibilities

1. **Applying for Initial Accreditation**

The chief executive officer or an officially designated representative of the sponsor completes a "Request for Accreditation Services" form and returns it to:

GoA PSG, 6 Pine Knoll Drive
Beverly, Massachusetts 01915-1425

The "Request for Accreditation Services" form can be obtained from the CoA- PSG, website at www.coapsg.org.

2. There is **no** CAAHEP fee when applying for accreditation services; however, individual committees on accreditation may have an application fee.

The program undergoes a comprehensive review, which includes a written self-study report and an on-site review.

The self-study instructions and report form are available from the CoA- PSG. The on-site review will be scheduled in cooperation with the program and once the self-study report has been completed, submitted, and accepted by the CoA-PSG

3. **Applying for continuing Accreditation**

a. Upon written notice from the CoA-PSG, the chief executive officer or an officially designated representative of the sponsor completes a "Request for Accreditation Services" form, and returns it to:

APT Executive Office Attention: CoA-PSG
PO Box 14861
Lenexa, KS 66285-4861

b. The program may undergo a comprehensive review in accordance with the policies and procedures of the CoA-PSG.

If it is determined that there were significant concerns with the on-site review, the sponsor may request a second site visit with a different team.

After the on-site review team submits a report of its findings, the sponsor is provided the

opportunity to comment in writing and to correct factual errors prior to the CoA-PSG forwarding a recommendation to CAAHEP.

4. **Administrative Requirements for Maintaining Accreditation**

   a. The program must inform the CoA-PSG and CAAHEP within a reasonable period of time (as defined by the CoA-PSG and CAAHEP policies) of changes in chief executive officer, dean of health professions or equivalent position, and required program personnel.

   b. The sponsor must inform CAAHEP and the CoA-PSG of its intent to transfer program sponsorship. To begin the process for a Transfer of Sponsorship, the current sponsor must submit a letter (signed by the CEO or designated individual) to CAAHEP and the CoA-PSG that it is relinquishing its sponsorship of the program. Additionally, the new sponsor must submit a "Request for Transfer of Sponsorship Services" form. The CoA-PSG has the discretion of requesting a new self-study report with or without an on-site review. Applying for a transfer of sponsorship does not guarantee that the transfer of accreditation will be granted.

   c. The sponsor must promptly inform CAAHEP and the CoA-PSG of any adverse decision affecting its accreditation by recognized institutional accrediting agencies and/or state agencies (or their equivalent).

   d. Comprehensive reviews are scheduled by the CoA-PSG in accordance with its policies and procedures. The time between comprehensive reviews is determined by the CoA-PSG and based on the program's on-going compliance with the **Standards;** however, all programs must undergo a comprehensive review at least once every ten years.

   e. The program and the sponsor must pay CoA-PSG and CAAHEP fees within a reasonable period of time, as determined by the CoA-PSG and CAAHEP respectively.

   f. The sponsor must file all reports in a timely manner (self-study report, progress reports, annual reports, etc.) in accordance with CoA-PSG policy.

   g. The sponsor must agree to a reasonable on-site review date that provides sufficient time for CAAHEP to act on a CoA-PSG accreditation recommendation prior to the "next comprehensive review" period, which was designated by CAAHEP at the time of its last accreditation action, or a reasonable date otherwise designated by the CoA-PSG.

Failure to meet any of the aforementioned administrative requirements may lead to administrative probation and ultimately to the withdrawal of accreditation. CAAHEP will immediately rescind administrative probation once all administrative deficiencies have been rectified.

5. **Voluntary Withdrawal of a CAAHEP- Accredited Program**

Voluntary withdrawal of accreditation from CAAHEP may be requested at any time by the Chief

Executive Officer or an officially designated representative of the sponsor writing to CAAHEP indicating: the last date of student enrollment, the desired effective date of the voluntary withdrawal, and the location where all records will be kept for students who have completed the program.

6. **Requesting Inactive Status of a CAAHEP-Accredited Program**

Inactive status may be requested from CAAHEP at any time by the Chief Executive Officer or an officially designated representative of the sponsor writing to CAAHEP indicating the desired date to become inactive. No students can be enrolled or matriculated in the program at any time during the time period in which the program is on inactive status. The maximum period for inactive status is two years. The sponsor must continue to pay all required fees to the CoA-PSG and CAAHEP to maintain its accreditation status.

To reactivate the program the Chief Executive Officer or an officially designated representative of the sponsor must notify CAAHEP of its intent to do so in writing to both CAAHEP and the CoA-PSG. The sponsor will be notified by the CoA- PSG of additional requirements, if any, that must be met to restore active status.

If the sponsor has not notified CAAHEP of its intent to re-activate a program by the end of the two-year period, CAAHEP will consider this a "Voluntary Withdrawal of Accreditation."

B. CAAHEP and Committee on Accreditation Responsibilities – Accreditation Recommendation Process

1. After a program has had the opportunity to comment in writing and to correct factual errors on the on-site review report, the CoA-PSG forwards a status of public recognition recommendation to the CAAHEP Board of Directors. The recommendation may be for any of the following statuses: initial accreditation, continuing accreditation, transfer of sponsorship, probationary accreditation, withhold accreditation, or withdraw accreditation.

   The decision of the CAAHEP Board of Directors is provided in writing to the sponsor immediately following the CAAHEP meeting at which the program was reviewed and voted upon.

2. Before the CoA-PSG forwards a recommendation to CAAHEP that a program be placed on probationary accreditation, the sponsor must have the opportunity to request reconsideration of that recommendation or to request voluntary withdrawal of accreditation. The CoA-PSG reconsideration of a recommendation for probationary accreditation must be based on conditions existing both when the committee arrived at its recommendation as well as on subsequent documented evidence of corrected deficiencies provided by the sponsor.

   The CAAHEP Board of Directors' decision to confer probationary accreditation is not subject to appeal.

3. Before the CoA-PSG forwards a recommendation to CAAHEP that a program's accreditation is

withdrawn or that accreditation be withheld, the sponsor must have the opportunity to request reconsideration of the recommendation, or to request voluntary withdrawal of accreditation or withdrawal of the accreditation application, whichever is applicable. The CoA-PSG reconsideration of a recommendation of withdraw or withhold accreditation must be based on conditions existing both when the committee on accreditation arrived at its recommendation as well as on subsequent documented evidence of corrected deficiencies provided by the sponsor.

The CAAHEP Board of Directors' decision to withdraw or withhold accreditation may be appealed. A copy of the CAAHEP "Appeal of Adverse Accreditation Actions" is enclosed with the CAAHEP letter notifying the sponsor of either of these actions.

At the completion of due process, when accreditation is withheld or withdrawn, the sponsor's Chief Executive Officer is provided with a statement of each deficiency. Programs are eligible to re-apply for accreditation once the sponsor believes that the program is in compliance with the accreditation Standards.

Any student who completes a program that was accredited by CAAHEP at any time during his/her matriculation is deemed by CAAHEP to be a graduate of a CAAHEP-accredited program.

After successful completion of the program, graduates will have met the educational requirements necessary to take the national comprehensive registry examination for polysomnographic technologists administered by the Board of Registered Polysomnographic Technologists (BRPT).

I. Curriculum General Education/Studies Requirements - 30 Credits

-Written and Oral Communication (CM)
-Critical Thinking (CT) Natural Science (NS)
-History and the Social ano Behavioral Sciences (SS)
-The Humanities – the Arts, Literature, and Philosophy (HA) Computer Course

II. Course-Specific- 30 Credits

1st & 2nd Semesters

Introduction to Sleep Medicine

- Medical Terminology
- History of Sleep Medicine
- ICSD-2
- Overview of Sleep Medicine- Diagnosis and Treatment
- Role of the Sleep Technologist
- Normal Sleep
- Evaluation of Sleep Complaints & Patient History
- Assessment of Daytime Sleepiness
- Questionnaires
- Assessment tools

- Assessing vitals
- Documentation-Patient Charting
- Basic Waveforms of Sleep

Anatomy & Physiology of Sleep Medicine

- Cardiovascular System
- Respiratory Anatomy & Physiology
- Neuroanatomy
- Sleep-Pharmacology

Patient Interaction and Safety

- Ethics and Professionalism in the Sleep Lab
- Infection Control
- Employee and Patient Safety
- Security, Disaster, Environmental Emergencies
- Medical Emergencies in the Sleep Lab
- Handling Difficult Patients
- Patient Education

Methodology for Polysomnography

- Principles of patient preparation
- Special needs of the patient
- International 10-20 System of Electrode Placement
- Electrodes: Principles of electrical conduction
- Montage: Signal derivation and amplification
- Applied Concepts
- Signal Processing (filter, sensitivity)
- Calibrations
- AC/DC Instrumentation

Laboratory I

Orientation to the Sleep Facility
Policies and Procedures
Federal and State Compliance (Personnel)
Patient Interaction
Electrode /sensor application
Initiating the sleep acquisition
Monitoring the acquisition for appropriate interventions
Ending the sleep acquisition
Infection Control

Clinical Practicum I

Assess patient and patient information

Impedance checks
Complete electrode / sensor placement
Clinical Objectives
Patient Arrival, Prep and Electrode Application
Cleaning and Safety
Montages and Equipment Calibration

3rd & 4th Semesters

Adult Sleep Scoring

Visual Rules
Arousal Rules
Cardiac Rules
Movement Rules
Respiratory Rules
Data Analysis and Report Generation
Archiving and Data Storage

Laboratory II

Patient Interaction
Electrode / sensor application
Initiating the sleep acquisition
Monitoring the acquisition for appropriate interventions
Ending the sleep acquisition
Scoring

Clinical Practicum II

Scoring
Report Calculations
Patient Assessment
Patient Monitoring
Documentation
Artifact Recognition & Troubleshooting
Cardiac Arrhythmia Identification

Patient Monitoring

Assessment of EEG and Sleep Architecture
Assessment of sleep disordered breathing
Assessment of Movement Disorders
Assessment of Parasomnias
Assessment of Psychiatric Disorders & Sleep
Artifact Recognition & Trouble-shooting
Esophageal Manometry

C02 Monitoring

Pathophysiology of Sleep Disordered Breathing

Obstructive -Sleep Apnea-
Hypopneas, Respiratory Effort Related Arousals (RERA's)
Central Apnea
Cheyne Stokes Respiration
Complex Sleep Apnea

Treatment of Sleep Disordered Breathing

PAP Habituation and Mask Fitting
Performing CPAP, Bi-Level, & ASV Titrations
Supplemental Oxygen
Dental Devices
Surgical Procedures

Sleep Disorders (non-respiratory)

Sleep Related Movement Disorders
Narcolepsy
Other Hypersomnias
Parasomnias
Insomnia
Seizures and Epilepsy
Gircadian Rhythm Sleep Disorders

Other Procedures

MSLT
MWT
Actigraphy
Home Sleep Testing
Indications
Types of Systems
Databases
Archiving

Pediatric Polysomnography

General Pediatric Considerations
Sleep Patterns: Infancy through Adolescence
Pediatric Sleep Disorders
Neuromuscular Disorders in Children
Visual Rules for Children
Respiratory Rules for Children

Clinical Laboratory III

Patient Interaction
Electrode/sensor application
Initiating the sleep acquisition
Therapeutic Intervention PAP Titration
Ending the sleep acquisition
C02 monitoring
PAP Titration
Pulse Oximetry
Oxygen Titration

Practical Clinical Practicum III

Mask fitting
Expanded montages
Case review
C02 monitoring
PAP Titration
Pulse Oximetry
Oxygen Titration

Quoted from: Accredited Sleep Technologist Education Program
American Academy of Sleep Medicine
One Westbrook Corporate Center, Suite 920
Westchester, IL 60154

Standards For A•STEP Accreditation

The AmericanAcademy of Sleep Medicine has recognized a growing commitment to the standardized education and training of sleep technologists. A-STEP, the Accredited Sleep Technologist Education Program, is a two-step program that includes both an 80-hour didactic course (AASM A-STEP Introductory Course) and an 18-month on-the-job training and e-learning program (AASM A-STEP Self-Study Modules). These Standards define the minimum requirements for AASM A-STEP accreditation. Duration of accreditation is two years. Every accredited program has the responsibility to meet all federal, state and local regulations pertaining to educational programs. (*Adopted by the Board of Directors in July, 2005 American Academy of Sleep Medicine*).

Personnel

Adequate personnel are critical to A-STEP. The A-STEP Program Director coordinates and manages the AASM A-STEP Introductory Course offering. An experienced registered polysomnographic technologist provides insight into the role of the technologist in the sleep disorders program, the knowledge base necessary to successfully pass the registry examination, and a model for the participant. The role of the A-STEP Clinical Director is to communicate the needs of the potential employer and to provide an overview of sleep medicine. The number and expertise of the remainder of the faculty should reflect the need to provide eight hours of instruction per day to the participants. Faculty will be required to provide didactic training as well as "hands-on" experience with a faculty-to-student ratio that optimizes training.

Standard 1. Each program must have a Program Director who is a Registered Polysomnographic Technologist or a Board Certified Sleep Specialist.

Standard 2. Each program must have a Clinical Director who is a Board Certified Sleep Specialist. This individual may also fill the role of Program Director. .

Standard 3. Each program must have a Technical Director who is a Registered Polysomnographic Technologist. This individual may also fill the role of Program Director.

Standard 4. Each program must have adequate faculty chosen by the Program Director to provide didactic and practical instruction to the students in the program.

Resources

The A-STEP Participant must have sufficient instructional resources to become familiar with the knowledge base relevant to sleep medicine as well as the work environment. Accredited sleep disorders programs meet high standards for patient care; an affiliation with an accredited sleep program is required. Students must have access to the equipment required to perform polysomnography and positive airway pressure titration.

An A-STEP with fewer than four students may provide AASM A-STEP Introductory Course instruction in an office or small conference room, whereas a larger A-STEP must have a classroom. A-STEP courses are encouraged to provide a library of instructional materials for students. Reference materials are essential, but other resources provide an excellent supplement to lectures.

Standard 5. Each program must be associated with a comprehensive Sleep Disorders Center accredited by the American Academy of Sleep Medicine.

Standard 6. Programs must have access to polysomnographic recording and treatment equipment used routinely by sleep technologists.

Standard 7. Programs with more than four students must have a classroom for didactic instruction.

Standard 8. Programs must have a library that includes, at a minimum, copies of the:

- International Classification of Sleep Disorders Second Edition;
- Clinical Practice Parameters of the American Academy of Sleep Medicine;
- the Manual of Standardized Terminology, Techniques and Scoring System for Sleep Stages of Human Subjects;
- the Manual of Standardized Terminology;
- Techniques and Criteria for Scoring of States of Sleep and Wakefulness in Newborn Infants; and
- CPR/AED for the Professional Rescuer by the American Red Cross.

Curriculum

Minimum curriculum requirements are defined here. A-STEP Providers are encouraged to review the sample curriculum developed by the Sleep Technologist Issues Committee of the AASM. Additional resources include the Curriculum Outline provided by the American Association of Sleep Technologists as well as the Registered Polysornnographic Technologist Examination Content Outline provided by the Board

of Registered Polysomnographic Technologists.

Standard 9. The program must include a minimum of eighty (80) hours of instruction. It is recommended that this instruction be continuous but should not extend beyond an eight week period.

Standard 10. The program curriculum must include an introduction to the history of sleep and an overview of sleep disorders and sleep medicine.

Standard 11. The program curriculum must include a basic understanding of the nervous, respiratory, skeletal and cardiovascular systems.

Standard 12. The program curriculum must include training in patient safety incorporating infection control techniques, fall precautions and recognizing emergencies.

Standard 13. The program curriculum must include training in obtaining patient histories, interpersonal communication and management of the difficult patient.

Standard 14: The program curriculum must include training in patient confidentiality, informed consent, and discussion of HIPAA regulations.

Standard 15. The program must includinstruction in preparation of the patient and equipment for polysomnography.

Standard 16. The program curriculum must introduce the student to polysomnographic recording, treatment equipment and electrical safety.

Standard 17. The program curriculum must introduce the student to sleep stage scoring and polysomnographic event detection.

Standard 18. The program must instruct the student in standard polysomnographic procedures, including the Multiple Sleep Latency Test and Maintenance of Wakefulness Test.

Standard 19. The program curriculum must include instruction in the application of positive airway pressure and supplemental oxygen as well as discussion of nocturnal ventilation.

Assessment

A-STEP is expected to evolve through a process of self-assessment and quality assurance. This requires evaluation of participant and program performance. Adequate records must be kept to facilitate this task. A-STEP introductory courses must use objective measures as markers of success to aid in refinement and improvement of the training provided. A-STEP should strive for a high rate of passage on the standardized trainee examination. Other markers of success include reports from students that they felt prepared to begin work and reports from employers that the students were adequately prepared to be effective in the workplace.

Standard 20. The program must provide students with an evaluation at the midpoint of the program that allows for correction of deficiencies in knowledge.

Standard 21. The program must maintain records of student performance and attendance.

Standard 22. The program must maintain objective measures of success, including but not limited to:

- Performance of students on standardized sleep technology trainee tests
- Student assessments of the program and how well they were prepared for work
- Employer assessments of student proficiency

Minimum Entry Requirements Assessment

A-STEP Providers must ensure that applicants are high school graduates and meet minimum standards for employment as a Polysomnographic Trainee.

Standard 23. Programs must require that students complete a high school education prior to beginning the program.

Standard 24. Programs must require that students are able to perform the duties specified in the AASM/AAST/ BRPT job description for a Polysomnographic Trainee.

Fair Practices

A-STEP Providers must not engage in false or misleading advertisements. Policies and procedures must be available for review, and the A-STEP must make every effort to treat participants and employees in a fair manner. Any A-STEP Provider that loses its Program or Clinical Director, changes the curriculum so that essential elements are no longer part of the training, or fails to maintain compliance with all of the Standards must report the change to the AASM office in a timely fashion.

Standard 25. Announcements, catalogs, publications and advertising must accurately reflect the program offered.

Standard 26. The policies and procedures of the program must be available to prospective students.

Standard 27. The program must have a student grievance procedure.

Standard 28. The program must follow federal, state and local guidelines regarding student and faculty recruitment and employment practices.

Standard 29. The program must report changes in resoyrces, curriculum or key personnel to the AASM within 90 days when they impact compliance with these standards.

"If they are registered by the Board of Polysomnographic Technologists, the national – international board, then there are requirements for education, attending an approved educational program ...having a certain level of degree education-wise." [Transcript, April 3, 2014, p. 9, ll.23-25 and p. 10, ll. 1-5].

"Currently, the American Association of Sleep Technologists is starting to set the bar at the minimum of an associate degree level for entry level into profession. There are over 40 different colleges now in the country that have programs in polysomnography. One here in Kansas is Johnson County Community College" [Transcript, April 3, 2014, p. 10, ll. 6-12].

COMMITTEE DISCUSSION:

The Committee recognized that Applicant identified several possible education and training modules.

FINAL FINDINGS:

The Technical Committee voted unanimously that Criterion IX was met by Applicant.