

Sleep Medicine Certification and Accreditation

Brian W Carlin MD FAARC

Introduction

Certification and Credentialing of Individuals

Certification of Polysomnographic Technologists

Certification of Respiratory Therapists

Certification of Physicians

Accreditation of Sleep Facilities

American Academy of Sleep Medicine

Joint Commission

Accreditation Commission for Health Care

Summary

Sleep-disorders medicine is undergoing substantial evolution in terms of testing and therapy. In order to ensure that the providers of care for patients with sleep disorders provide quality and safe care, various types of individual certification and sleep-disorders-center accreditation programs have been developed. These programs should help to ensure optimal patient care. *Key words: certification; accreditation; registered polysomnographic technologist; RPSGT; sleep disorders specialist; CRT-SDS; RRT-SDS.* [Respir Care 2010;55(10):1377–1385. © 2010 Daedalus Enterprises]

Introduction

The Committee on the Health Professions, from the Institute of Medicine of the National Academies, developed a vision for clinical education in the health professions, recommending that all health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality-improvement approaches, and informat-

ics.¹ Sleep-disorders medicine is a rapidly evolving field. The evolution in terms of newer diagnostic techniques and informatic and therapeutic technology will dictate the need for increased educational and clinical experience. This experience will ultimately need to be translated to patient care. Mechanisms to determine that optimal patient care is being delivered will need to be developed.

A key component in the evolution of technology and education is the certification of practitioners and accreditation of sleep-disorders centers. In order to ensure that professionals have developed the basic skills necessary to provide quality care, assessment of the knowledge, skills, and attributes of a healthcare provider in the field of sleep-disorders medicine is essential. In order to make certain that sleep-disorders centers are providing quality and safe care, assessment of various standards of practice is also essential. In a Web-based survey, accreditation or certification of sleep centers and physicians was associated with better indexes of clinical management for patients who have obstructive sleep apnea.² This discussion will center on the mechanisms available for individual certification of

Brian W Carlin MD FAARC is affiliated with Allegheny General Hospital, Drexel University School of Medicine, Pittsburgh, Pennsylvania.

Dr Carlin presented a version of this paper at the 45th RESPIRATORY CARE Journal Conference, "Sleep Disorders: Diagnosis and Treatment," held December 10-12, 2009, in San Antonio, Texas.

Dr Carlin has disclosed a relationship with the National Board for Respiratory Care.

Correspondence: Pulmonary and Critical Care, Allegheny General Hospital, 490 East North Avenue, Suite 300, Pittsburgh PA 15212. E-mail: bcarlin@wpahs.org.

healthcare providers of sleep services, as well as the mechanisms available for sleep-disorder center accreditation.

Certification and Credentialing of Individuals

Certification refers to the confirmation of certain characteristics of an object, person, or organization. This confirmation is often provided by some form of external review, education, or assessment. A common type of certification is professional certification, where a person is certified as being able to competently complete a job or task, usually by passing an examination.

Credentialing is the process of establishing the qualifications of organizational members or organizations, and assessing their background and legitimacy. This process helps to ensure that the provider meets a minimum standard for the provision of a particular service. Through credentialing it is hoped that a patient who is receiving a particular service will subsequently be provided that care by a qualified person.

Currently there are 2 types of certification processes available for professionals who provide care for patients with sleep disorders. These include certification of technologists and therapists through the Board of Registered Polysomnographic Technologists (BRPT) and the National Board for Respiratory Care (NBRC), as well as certification of physicians and PhDs through the American Board of Sleep Medicine (ABSM) and the American Board of Medical Specialties (ABMS).

Certification of Polysomnographic Technologists

The BRPT administers a certification program that leads to the Registered Polysomnographic Technologist (RPSGT) credential, based on practices that measure the knowledge, skills, and abilities of technologists in the field of sleep-disorders medicine. This certification is based upon successful completion of a computer-based examination. The examination is based upon a job analysis that reflects current practice. This job analysis is performed every 5 years to maintain currency with the practice of sleep-disorders testing and treatment. Based upon this job analysis, a new version of the examination is developed.

The current version of the BRPT examination was developed in 2005. This examination was designed to assess minimally acceptable knowledge in the duties performed by an RPSGT. The modified Angoff technique was used to determine a recommended cut score.³ A panel of 13 registered polysomnographic technologists representative of the profession in North America were trained by experts in the standard setting method for establishing a recommended passing score. Following training, the panelists reviewed each question on the examination and recorded their esti-

mate of the percentage of minimally knowledgeable candidates who would answer each question correctly. After collecting data from the panelists, the minimally acceptable score is calculated by examining the estimates for each question and deleting the outliers and then averaging the panelist's estimates and determining the number of questions that corresponded to the statistic obtained. The panelists were then able to recommend a cut score for the examination. The final passing score was then based on this pooled judgment and included a statistical adjustment for testing error. The BRPT was ultimately responsible for the final decision regarding the passing point.

The RPSGT examination consists of 200 multiple-choice single-best-answer questions. One hundred fifty of these questions compose the actual test and count toward the candidate's score, while the other 50 questions are "pre-test" items and do not count toward the final score. These "pre-test" items are evaluated and, if acceptable, are then banked to potentially be included in newer versions of the examination.

There are several pathways, based upon the level of training and experience that a candidate may use to become eligible for the examination. Regardless of the pathway used for eligibility, candidates must hold certification in basic cardiac life support or the equivalent, including a hands-on practical training evaluation segment. In addition, candidates must follow the BRPT standards of conduct and policies and procedures.⁴

Pathway 1-A The candidate must complete a minimum of 18 months of paid clinical experience, where at least 21 hours per week per calendar year on the job duties performed are direct patient recording of polysomnography and/or scoring (during a 3-year period prior to the examination). The candidate must also have completed the AASM A-STEP (Accredited Sleep Technologist Education Program) self-study (online) modules, or a BRPT-designated equivalent education program. The candidate must also have completed secondary education.

Pathway 2-A The candidate 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 direct patient recording of polysomnography and/or scoring (during a 3-year period prior to the examination). Each candidate must hold a credential in one of the following allied health fields: nursing, respiratory care, electroneurodiagnostics, physician assistant, medical doctor, or emergency medical technician-paramedic.

Pathway 3-A The candidate must successfully complete a program in polysomnographic technology accredited by the Commission on Accreditation of Allied Health Edu-

education Programs (CAAHEP). This program may be a stand-alone program or attached to a program in respiratory or electroneurodiagnostics. Currently in the United States there are 12 respiratory therapy advanced level programs with a polysomnogram concentration component of training, 12 neurodiagnostic technologist programs with polysomnogram concentration component of training, and 24 stand-alone polysomnogram training programs.

Pathway 4-A The candidate must successfully 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 direct patient polysomnography recording and/or scoring (completed within a 3-year period prior to the examination). The candidate must complete the A-STEP introductory course as well as the A-STEP self-study (online) modules or a BRPT-designated alternate education program.

The examination is based on a content outline that is based on the job analysis. Five domains of questions are included on the examination “blueprint.” These include questions on pre-study procedures, study performance, therapeutic intervention, post-study procedures, and scoring and data analysis. The percentages of overall test questions from each domain are shown in Table 1.

There are nearly 14,000 RPSGT-credentialed sleep technologists worldwide, and this number has doubled in the past 4 years and can be expected to continue to increase. Various regulatory requirements currently exist regarding RPSGT practitioners. The Centers for Medicare and Medicaid Services require that polysomnogram testing be monitored by a credentialed technologist (RPSGT) when performed in an independent diagnostic testing facility.⁵ In addition, the AASM facility accreditation guidelines require at least one RPSGT be on staff and that all other technologists be enrolled in an education program leading to RPSGT examination eligibility.⁶

In March 2010, the BRPT began offering a new certificate level examination. This examination is designated as the Certified Polysomnographic Technologist (CPSGT) examination. This is the first step in establishing a tiered credentialing system in sleep technology by the BRPT. This certificate will not be a prerequisite for sitting for the RPSGT examination but rather an entry-level certificate for those entering the sleep technology profession. A candidate will be able to sit for the examination with a minimum of 3 months of full-time experience in sleep and hold a high school diploma or the equivalent, a current cardiopulmonary resuscitation/basic life support certification, and verification of completion of a designated subset of the American Academy of Sleep Medicine (AASM) A-STEP self-study online modules. The examination consists of 75 multiple-choice single-best-answer questions,

Table 1. RPSGT 2010 Examination Blueprint Domains

Domain	%*
Pre-study procedures	15
Study performance	25
Therapeutic intervention	25
Post-study procedures	10
Scoring and data analysis	25

* These percentages reflect the number of questions in that particular domain that are on the examination.
RPSGT = Registered Polysomnographic Technologist

with the exam content based on introductory-level topics, with an examination blueprint mirroring the RPSGT examination.⁷

Certification of Respiratory Therapists

The NBRC developed the Sleep Disorders Specialist (SDS) examination for certified respiratory therapists (CRTs) and registered respiratory therapists (RRTs), to assess the knowledge-based competency for those therapists practicing in the field of sleep-disorders medicine.⁸ The examination was developed using similar means to those of the RPSGT examination. A 5-step process was used, which included a viability study, a personnel study, a job-analysis study, test-specification development, and a criterion-related validation study. The purpose of the NBRC credential is to document that a candidate has met a minimum achievement standard while performing the job of a sleep-disorders specialist. A process similar to the RPSGT examination was used for the determination of the passing (“cut score”) score.

The SDS examination program is designed specifically for a respiratory therapist who has an NBRC respiratory care credential and experience or education in the field of sleep-disorders medicine. Depending upon the baseline credential attained by the candidate, successful completion of this examination will enable the candidate to declare certification as either a CRT-SDS or RRT-SDS. Candidates for the examination have already demonstrated their minimal competence (through attainment of the CRT or RRT credential) in some of the areas used when diagnosing and treating patients with sleep disorders, and are thus not retested on those particular areas of content. The SDS examination focuses on competencies that are unique to the diagnosis and treatment of patients with sleep disorders and does not include content about general respiratory care.

Candidates may gain entry to the examination through a variety of means, based upon their previous NBRC certification status, clinical experience, and education. These pathways include:

Pathway 1-A The candidate must be a CRT or RRT having completed a CAAHEP-accredited respiratory therapist program that included a sleep add-on track.

Pathway 2-A The candidate must be a CRT with 6 months of full-time clinical experience following certification in a sleep diagnostics and treatment setting under medical supervision (MD, DO, or PhD). Full-time clinical experience is defined as a minimum of 21 hours per week per calendar year.

Pathway 3-A The candidate must be an RRT with 3 months of full-time clinical experience following certification in a sleep diagnostics and treatment setting under medical supervision.

The examination was first offered in December 2008. It consists of 180 multiple-choice single-best-answer questions. Twenty of the questions are “pre-test” questions and do not count as part of the final score. A total of 4 hours is allowed for completion of the examination. The examination is scheduled at a computer-based testing agency and can be taken at any time during the year, based upon such scheduling.

Five major content areas are contained within the examination, including: pre-testing, sleep-disorders testing, study analysis, administrative functions, and treatment plan. The percentages of questions in each content area are listed in Table 2. Each content area is tested using a variety of cognitive levels of knowledge, including recall, application, and analysis. Candidates who earn the SDS credential are required to demonstrate continued competence through the NBRC’s continuing competency program every 5 years.

While both examinations (RPSGT and SDS) have undergone a similar development process, there are some differences between the examinations. The RPSGT examination is offered to a wide variety of medical personnel and tests both basic and advanced concepts regarding sleep-disorders testing. Prior to June 2010 this examination was offered only during various times (known as windows) through the year. The results of the test were then distributed within several weeks following the end of that particular testing window. As of June 2010, the examination is offered via an “on-demand” basis. The candidate applies for acceptance to the examination, and once approved for the examination the candidate is then able to schedule a time to take the examination. Each test is administered in a computer-based testing center over a 4-hour period. The results are then forwarded to the candidate following completion of the examination.

The SDS examination is offered only to respiratory therapists who have previously earned the CRT or RRT credential and consists of testing concepts that are in addition to those tested at the level of the respiratory therapist. This

Table 2. SDS 2010 Examination Blueprint Domains

Domain	%*
Pre-testing	12
Sleep disorders testing	30
Study analysis	31
Administrative functions	9
Treatment plan	18

* These percentages reflect the number of questions in that particular domain that are on the examination.
SDS = Sleep Disorders Specialist

examination has an emphasis on not only sleep-disorders testing but also management of patients with sleep-disordered breathing. This examination can be taken throughout the year on most days, with the results provided to the candidate at the immediate conclusion of the test.

Competency testing for the credentialing of individuals ensures the knowledge level of technologists/therapists in the field. The National Commission for Certifying Agencies (NCCA) is the accreditation body of the Institute for Credentialing Excellence (formerly known as the National Organization for Competency Assurance). This agency establishes standards for credentialing agencies that help to ensure that a particular organization has developed the appropriate standards and processes upon which to base credentialing “best practices.” Both the BRPT and the NBRC are NCCA-accredited organizations. The RPSGT examination has been validated and reviewed by the NCCA. The SDS examination has recently undergone validation and has been submitted to the NCCA for review.

Certification of Physicians

Certification for physicians is also available. Beginning in 1978, the AASM developed and began administration of a competency examination for physicians in the field of sleep disorders. In 1991 the ABSM was created and assumed responsibility of the examination until 2006. Over a 28-year period, 3,445 individuals earned the credential of Diplomate of the ABSM. The examination evolved over the years, beginning with both written true/false questions, along with an oral examination, to a 2-part examination consisting of multiple-choice questions and essay response-based questions to, most recently, a computer-based examination consisting only of multiple-choice questions. The last ABSM examination was administered in 2006. The ABSM certificate is time-unlimited, meaning that candidates who successfully complete the examination are certified by the ABSM for life.

Beginning in 2007, a certification examination in sleep medicine was administered under co-sponsorship of 5 ABMS member boards: the American Board of Internal

Medicine (<http://www.abim.org>), the American Board of Family Practice (<https://www.theabfm.org>), the American Board of Otolaryngology (<http://www.aboto.org>), the American Board of Pediatrics (<http://www.abp.org>), and the American Board of Psychiatry and Neurology (<http://www.abpn.com>). The examination is a computer-based test consisting of multiple-choice questions, and is administered every other year. Candidates who successfully pass the examination are given a credential that is valid for 10 years, following which recertification is required.

The same examination is administered to candidates from each of the 5 member boards. The exam is designed to evaluate the extent of a candidate's knowledge and clinical judgment in the field of sleep-disorders medicine. A specific pre-established blueprint of content has been developed and is used as a guide in developing the examination. Content areas include normal sleep and variants, organ system physiology in sleep, sleep evaluation, pharmacology, disorders related to sleep-wake timing, insomnia, hypersomnolence, parasomnias, sleep-related movement disorders, sleep-related breathing disorders, and childhood sleep disorders.

Eligibility for candidates to take the examination depends upon the candidate's particular area of prior certification (eg, internal medicine, family practice, otolaryngology, pediatrics, or neurology/psychiatry). A physician who is certified by the ABIM as an internist has 2 pathways (practice and training) by which to become eligible for the examination. Practice pathway A is open to candidates who have been practicing sleep medicine for a minimum of 12 months accumulated over a maximum of 5 years prior to the application and involving a minimum experience of evaluating 400 individual patients, as well as interpreting and reviewing the complete raw data of 200 polysomnograms and 25 multiple sleep latency tests. Practice pathway B is open to candidates who are currently certified by the ABSM. The Training pathway requires the candidate to complete 12 months of clinical sleep medicine fellowship training in a program that is certified by the Accreditation Council on Graduate Medical Education. Each of the other member boards has specific policies for entry to the examination. The various pathways for eligibility for certification can be found at the individual ABMS boards' Web sites. Recently the member board of the American Osteopathic Association approved new practice pathways for eligibility for a sleep-medicine examination provided by the American Osteopathic Board of Internal Medicine.⁹

Accreditation of Sleep Facilities

The quality of healthcare facilities differs from one site to another. Accreditation is a process in which certification of competency, authority, or credibility is presented. It is

a means to measure the internal processes, organizational management, patient safety practices, and treatment and service outcomes. The process helps to ensure that the healthcare facility is providing competent testing and care and helps to certify to third parties that the facility is behaving in an ethical manner and employing suitable quality-assurance measures. In most instances (and certainly in the instance of sleep-disorders testing), this is a peer-developed and reviewed process that is provided through a nonprofit organization. This structure has established higher standards than state or federal requirements. Accreditation of a sleep-disorders center is a voluntary process and currently is provided by one of 3 organizations: the AASM, the Joint Commission, and the Accreditation Commission for Healthcare (ACHC).

American Academy of Sleep Medicine

The AASM has been accrediting sleep laboratories and sleep-disorders centers since 1977. The AASM is a professional medical organization representing those professionals who practice sleep medicine and sleep research. The accreditation process of the AASM is based upon the organization's Standards for Accreditation,⁶ which were developed to ensure that the highest level and quality of care is delivered to patients with sleep disorders. They describe the required structural, professional, and human resources; clinical and technical standards; and emergency and quality-assurance methods required for accreditation. In addition, accredited facilities must follow the standards of the AASM's practice parameters, which cover a variety of topics and were developed through a rigorous evidence-based methodology. A list of the accreditation standard topics is shown in Table 3.

The facility must have a single medical director who is a licensed physician within the state where the facility is located. The medical director is responsible for the direct and ongoing oversight of testing and is responsible for the qualifications of all medical and testing personnel. He/she must be present within the facility for at least 8 hours per

Table 3. AASM Standards for Accreditation

Personnel	
Patient policies	
Facilities and equipment	
Policies and procedures	
Data acquisition, scoring, and reporting	
Patient evaluation and care	
Patient records	
Emergency procedures	
Quality assurance	
AASM = American Academy of Sleep Medicine	

month and can serve as the medical director of no more than 3 sleep facilities, regardless of their accreditation status.

Each facility must designate a single professional who is either board certified by the ABSM or by a member board of the ABMS as the medical director. This professional could also be accepted by the ABMS-approved board to sit for the next examination in sleep medicine or who has completed a 12-month fellowship in sleep medicine and is awaiting the next available examination. The board-certified sleep specialist must provide direct and ongoing oversight of the testing and quality of testing, as well as facilitate the quality-assurance program of the facility.

Accredited sleep facilities must maintain appropriately trained and supervised technologists, with a staffing ratio of patients to technologists not greater than 2:1. A minimum of one sleep technologist must be certified by the BRPT (or accepted to sit for the BRPT examination) or an equivalent examination accepted by the AASM. All technologists and technicians who are not certified by the BRPT must be enrolled in or have completed the AASM's A-STEP self-study modules, or must be enrolled in or have completed a CAAHEP-accredited sleep-technology training program, or an electroneurodiagnostic program, or a respiratory-therapy add-on track for sleep technology. All medical personnel, physicians, and technologists must maintain active participation in continuing medical education.

The facility must have a written acceptance policy for patients to receive care at the center. At least 20% of the patients must be seen in consultation by a sleep facility staff, either prior to or within 3 months following a sleep study. All other patients must have their records reviewed by a sleep facility staff physician to determine if the proposed evaluation conforms with the established AASM practice parameters. Each patient who is accepted for testing must undergo such testing in compliance with the Practice Parameters for the Indications for Polysomnography and Related Procedures¹⁰ and the Clinical Guidelines for the Use of Portable Monitoring in OSA (obstructive sleep apnea).¹¹

Standards addressing the space requirements, including provisions to provide emergency care within such space, if necessary, are also included. The facility must maintain equipment as described in the AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology, and Technical Specifications,¹² and must maintain equipment for the delivery of positive-airway-pressure therapy.

Written protocols (paper or electronic forms) must be maintained by the facility. These include policies and procedures for standard sleep-disorders testing (eg, polysomnography, multiple sleep latency testing, maintenance of wakefulness testing, and positive-airway-pressure titration), as well as any other types of testing provided within

the facility. A plan for equipment maintenance is also necessary.

All data acquisition and storage must comply with the AASM standards. All reports and scoring must also comply with these standards. All raw data from the study must be reviewed by the physician interpreting the study. The center's physicians must demonstrate the ability to manage patients with a wide variety of sleep disorders. The ongoing evaluation and management of such patients must be documented, including follow-up of treatment with positive airway pressure. A cumulative database of the patient's final diagnosis (including any procedures performed) must be maintained by the facility.

A written emergency plan must also be available that describes the details for contacting emergency personnel under a wide variety of medical and nonmedical conditions. At a minimum, the policies must include procedures for cardiac, neurologic, psychiatric, and environmental emergencies. All appropriate emergency equipment that is described within these policies must be readily available at the facility.

A quality-assurance program that addresses several quality indicators must be performed by the facility. Inter-scoring reliability monitoring, along with 3 other quality indicators (eg, testing turnaround time, positive-airway-pressure compliance rates, technologist study performance, patient satisfaction) must be performed and reviewed by the medical director or center's board-certified sleep specialist at least quarterly.

An application for accreditation is completed and filed along with an accreditation fee of \$3,800. The AASM national office will review the application and will determine whether the facility is eligible for a site visit. If deemed not acceptable, the AASM will notify the facility of the requirements that the center must meet in order to become eligible for such a visit. The facility will then have the opportunity to address the deficiencies, and the AASM will then again consider whether the facility is eligible for a site visit.

Once the facility is eligible, the AASM will coordinate a site visit with the facility and the site visitor, who will then visit the laboratory, with the review typically taking place during a 6-hour period, beginning in the morning. The site visitor will speak with the center's administrative staff, physician staff (medical director and physicians who interpret studies or see patients in the center), and technologist staff. He/she will review all pertinent information and several patient records, including evaluation, management, and testing records. All site visitors are board-certified sleep specialists and are current or previous medical directors or directors of AASM accredited centers. A review of the site visitor's findings is provided at the end of the site visit.

Following the visit, the site visitor will prepare a detailed report that will be forwarded to the AASM board of directors. The board will then decide on one of 3 recommendations: full accreditation, accreditation with provisos, or accreditation denied. If granted accreditation with provisos, the center will need to meet those stipulations that were noted by the board within a specified deadline in order to obtain accreditation. If the center does not meet the stipulations within 3 months from the date of the decision letter, the review process is terminated by the AASM and the application for accreditation is withdrawn.

The option to undergo accreditation by the Joint Commission exists, as certain payers accept this accreditation as an alternative to the AASM accreditation. The accreditation is often completed by hospitals during the overall Joint Commission hospital accreditation process. Some payers may not consider the hospital-wide accreditation acceptable and require a more specific sleep-laboratory accreditation site visit.

Joint Commission

The Joint Commission recently developed an accreditation process for sleep-disorders centers. The Joint Commission is a non-governmental, not-for-profit organization that was constructed in 1951 to act as an independent accrediting body for healthcare organizations worldwide. Beginning in 1975, the Joint Commission established the Ambulatory Health Care Accreditation Program to encourage high-quality patient care in the settings of a non-hospital-based care program (eg, freestanding ambulatory healthcare facilities).¹³ A total of over 15,000 organizations are accredited by the Joint Commission. It offers a comprehensive package of services that can be used as a management tool to enhance quality of care and service, patient and staff safety, organizational risk management, and continuous performance improvement. Any healthcare organization may apply for Joint Commission accreditation, provided all of the following requirements are met: the organization assesses and improves the quality of its services; the organization identifies the services it provides; the organization provides services addressed by the Joint Commission's Ambulatory Care standards; and the organization is in the United States or one of its territories. Sleep-disorders centers fall under this type of accreditation program.

The accreditation process for sleep-disorders centers is similar to the process used by the Joint Commission for other ambulatory care centers. Standards of care must be met and address patient-focused requirements. These standards are organized around functions and processes, and include environment of care, emergency management, human resources, infection prevention and control, information management, leadership, life safety, medication man-

agement, provision of care, performance improvement, record of care, treatment and services, rights and responsibilities of the individual, and waived testing.

Web-based tools are used to assist with the process, and an on-site survey assists with evaluation of direct patient care and the role of the staff.¹³ Emphasis for the process is on the organization's systems of the provision of care and ongoing improvement and tailoring of standards. A "tracer" system is used to track a patient's movement through the system. Few formal interviews are conducted, with more attention being paid to the staff and direct patient care. The process focuses on the execution of the delivery of care and services. This system will trace up to 4 patients through the care process and the facility, and uses the patient chart as the "road map." Dialogue on the use of various forms of data and infection prevention is contained within the review. The process seeks to help an organization identify and correct problems, with the ultimate desire to improve the safety and quality of the care and services provided.

The on-site process is designed to accommodate a sleep center's normal operational systems and schedules. Typically, a 2-day survey is scheduled for the first survey, and includes observation of an overnight sleep study. The center will receive a summary of the findings at the conclusion of the site visit, with a preliminary decision obtained within 48 hours. If there are requirements necessary for improvement, the center may submit further evidence for compliance with the standards within 60 days. The final accreditation decision is then processed.

The Joint Commission uses "employee" surveyors that are ambulatory professionals who work part-time for the Joint Commission. Each surveyor undergoes initial and yearly training and must pass a certification examination to help ensure consistency in the survey process. Defined, fixed pricing fees are posted on the Web site and are billed over a 3-year period.¹³ All accreditation decisions are valid for a 3-year period.

Accreditation Commission for Health Care

The ACHC has been involved in the accreditation of various types of healthcare organization since 1986. More than 10,000 locations have been accredited worldwide. Primarily involved in the accreditation of home healthcare companies, durable medical equipment suppliers, and hospice, the ACHC began in 2009 to design an accreditation program for facilities that provide sleep diagnostic testing. The program focuses on patient care and outcomes of the sleep testing process.

The program includes a preliminary evidence report that is a compilation of the facility's policies and procedures, matched to ACHC's accreditation standards. The ACHC standards include business operations and administration, financial management, human-resource management, con-

sumer services/records, quality improvement and outcomes, and equipment and patient safety.

Following review of the report, recommendations for changes to the policies and procedures are made to the facility, and a site visit is then scheduled. Actual observation of patient care is then performed at the time of the site visit. Some third-party payers have recognized the ACHC process for accreditation in regard to reimbursement for testing services provided. Further details regarding the application process as well as the fees involved can be obtained through the ACHC.¹⁴

While the process for accreditation differs somewhat among these 3 accrediting agencies, there are certain similar characteristics. Sleep-specific criteria for accreditation are included in each process. In addition, a certified physician must also be included as part of the process.

Accreditation of sleep facilities has many benefits. In addition to being recognized as a benchmark for quality review and achievement, it demonstrates that the facility's staff has met defined education standards. Accreditation gives each staff member a sense of accomplishment in meeting standards that have been benchmarked and enables staff members to have an increased sense of pride when providing patient care. Accreditation demonstrates to third-party payers that the center has met a defined set of standards. Accreditation may help to secure reimbursement and help to expand market opportunities and increase patient evaluation and testing services. Some payers actually require accreditation, although this varies from one area of the country to another and from one third-party payer to another.

Certification and accreditation are becoming much more important, particularly in terms of reimbursement by third-party payers. The Centers for Medicare and Medicaid Services currently recognize the accreditation of the AASM and the Joint Commission, but not the ACHC. Certified technologists (eg, currently the RPSGT) must perform the sleep-disorders testing in independent diagnostic testing facilities. Coverage of continuous-positive-airway-pressure devices is allowed, based on the diagnosis of obstructive sleep apnea, based on portable-monitor testing. Interpretation of portable-monitoring results in this situation must be performed by a board-certified sleep physician or a physician who is a member of the staff of an accredited sleep-disorders center. Local coverage determinations for various Medicare administrative contractors have been issued that require independent diagnostic testing facilities and all other non-hospital-based facilities where sleep studies are performed to have evidence on file that they are fully or provisionally certified by the AASM as a sleep-disorders center. Information regarding coverage issues for a particular region of the country can be found at the Centers for Medicare and Medicaid Services and Medicare administrative contractors Web sites.¹⁵⁻¹⁷

Summary

The practice of sleep-disorders medicine is constantly evolving. This evolution includes diagnostic testing, therapeutic management, and credentialing and accreditation processes. Certification of individuals practicing sleep-disorders medicine can be attained through a variety of means for technologists, respiratory therapists, and physicians. Such certification helps to ensure a minimum level of competency of the practitioner. Accreditation of sleep-disorders centers can be obtained through the AASM, the Joint Commission, or the ACHC. Accreditation helps to ensure that the center maintains a standard of care and quality processes that will ultimately ensure optimal testing and patient safety. Currently certification and accreditation are intimately involved in reimbursement for the provision of services in many areas throughout the country.

Both certification of individuals and accreditation of sleep centers will continue to evolve in the coming years. The measures currently being used to ensure competency for individuals will probably undergo further changes in order to ensure that practitioners are up to date on the practice of sleep medicine. Accreditation will probably be expanded, given the increasing requirements that sleep-disorders centers have accreditation in order to be provided reimbursement. All of these changes will help to ensure that those patients who are undergoing sleep-disorders testing and treatment receive the best care possible.

REFERENCES

1. Greiner AC, Knebel E, editors. Health professions education: a bridge to quality. Washington, DC: National Academies Press; 2003. http://www.nap.edu/openbook.php?record_id=10681. Accessed August 6, 2010.
2. Parthasarathy S, Haynes PL, Budhiraja R, Habib MP, Quan SF. A national survey of the effect of sleep medicine specialists and American Academy of Sleep Medicine accreditation on management of obstructive sleep apnea. *J Clin Sleep Med* 2006;2(2):133-142.
3. Angoff WH. Scales, norms, and equivalent scores. In: Thorndike RL, editor. Educational measurement, 2nd edition. Washington, DC: American Council on Education; 1971:508-600.
4. Board of Registered Polysomnographic Technologists. BRPT candidate handbook, 2010 edition. Registered polysomnographic technologist. http://www.brpt.org/exam_info/brpt_handbook.pdf. Accessed August 6, 2010.
5. US Department of Health & Human Services, Centers for Medicare & Medicaid Services. <http://www.cms.gov>. Accessed August 6, 2010.
6. American Academy of Sleep Medicine. Standards for accreditation of sleep disorders centers. <http://www.aasmnet.org/resources/pdf/dec2008centerstandards.pdf>. Accessed August 6, 2010.
7. Board of Registered Polysomnographic Technologists. BRPT candidate handbook, 2010 edition. Certified polysomnographic technologist. http://www.brpt.org/exam_info/cpsgt-handbook.pdf. Accessed August 6, 2010.

8. NBRC. Sleep Disorders Specialty Examination. <https://www.nbrc.org/examinations/sds/tabid/92/default.aspx>. Accessed August 6, 2010.
9. American College of Osteopathic Internists. <http://www.acoi.org>. Accessed August 6, 2010.
10. Kushida CA, Littner MA, Morgenthaler T, Alessi CA, Bailey D, Coleman J, et al. Practice parameters for the indications for polysomnography and related procedures: an update for 2005. *Sleep* 2005;28(4):499-519.
11. Collop NA, Anderson WM, Boehlecke B, Claman D, Goldberg R, Gottlieb DJ, et al. Clinical guidelines for the use of unattended portable monitors in the diagnosis of obstructive sleep apnea in adult patients. *J Clin Sleep Med* 2007;3(7):737-747.
12. Iber C, Ancoli-Israel S, Chesson AL, Quan SF. The AASM manual for the scoring of sleep and associated events: rules, terminology, and technical specifications. American Academy of Sleep Medicine; 2007.
13. The Joint Commission. How to become accredited. http://www.jointcommission.org/accreditationprograms/ambulatorycare/htba/ahc_accreditation. Accessed August 6, 2010.
14. Accreditation Commission for Health Care. Accreditation process. http://ahc.org/accreditation_process.php. Accessed August 6, 2010.
15. Centers for Medicare & Medicaid Services. Part A/Part B Medicare administrative contractor. http://www.cms.gov/medicarecontractingreform/07_partaandpartbmedicareadministrativecontractor.asp. Accessed August 6, 2010.
16. American Academy of Sleep Medicine. Portable monitoring. <http://www.aasmnet.org/portablemonitoring.aspx>. Accessed August 6, 2010.
17. Trailblazer Health Enterprises. Local coverage determinations. <http://www.trailblazerhealth.com/tools/lcds.aspx?domainid=1>. Accessed August 6, 2010.

Discussion

Minkley:* The RPSGT [Registered Polysomnographic Technologist] credential has a progression of development very similar to the RRT [Registered Respiratory Therapist] and CRT [Certified Respiratory Therapist] credentials.

The same job task analysis and that same 5-step process used for respiratory care credentials was followed for its development and maintenance. The maturation of the RPSGT credential and addition of the CPSGT [Certified Polysomnographic Technologist] by the BRPT [Board of Registered Polysomnographic Technologists] is not unlike that of the NBRC [National Board for Respiratory Care] and RRT credential some 30 years ago. The BRPT started with a written exam with orals, and then we went to a standardized validated exam—that same process. I chaired the committee that developed the RPSGT exam. The interesting thing with the RPSGT is that the job task analysis is re-certified or validated every 5 years, or sooner if growth in the field necessitates it. It also is validated as an international credential, which is unique in allied health credentialing; people can go back and forth between coun-

tries. The examination development was through the AMP [Applied Measurement Professionals Incorporated], which is the NBRC's exam development arm, so it was the same rigorous development as the respiratory care credentials.

In regards to lab accreditation for hospital-based labs, hospital-based labs may get a visit from the tracker from the Joint Commission. They don't separately accredit them, but because they're within the hospital the Joint Commission often comes through and their tracker will ask to track a patient, mainly looking at proper documentation and that they adhere to national patient safety goals. It's not a separate accreditation, but because they occupy the same location, they get a site visit.

Carlin: Yes, and then they are accredited under the umbrella of the hospital.

Minkley: Of that hospital, yes. But it's not a separate sleep accreditation; it's just saying that the sleep center is operating within the hospital, so they need to meet the same standards.

Quan: If you study a Medicare patient in your laboratory, you need to have an RPSGT do the study. Does Medicare recognize the new SDS [Sleep Disorder Specialist] certification?

Carlin: Not yet. Once the examination has undergone the validation part of the process, the NBRC will then apply to the NCCA [National Commission for Certifying Agencies] for recognition of the SDS as a validated examination. Once that happens, I suspect discussions with CMS [Centers for Medicare and Medicaid Services] will occur regarding allowing RTs with the SDS credential to care for a Medicare patient in the same manner that an RPSGT does. In addition, discussion with the AASM will probably occur to allow recognition of the SDS credential as part of the sleep laboratory accreditation process.

Quan: So if someone wanted to take an exam who didn't have a certificate, it wouldn't make sense to take the newer exam now, when they may not be able to be hired at an accredited lab.

Carlin: Yes. That is one of the benefits of the RPSGT credential at present.

Malhotra: What's the deal in California? I heard that there was some bill that Schwarzenegger didn't sign, but there was a mandate that there has to be an RT there to give noninvasive ventilation or something—some weird thing that's the opposite of Medicare.

* Pamela Minkley RRT RPSGT CPFT, Home Healthcare Solutions, Philips Respironics, Monroeville, Pennsylvania.

Carlin: In California there have been discussions on proposed legislation.

Minkley: That is actually the result of a state licensure issue—a growth issue in the sleep field, with RTs being licensed and sleep technologists not, so there was an issue with scope of practice. This is a good thing for this group to discuss, for us to say that we're all in this to keep our patients safe; let's stop this craziness.

Malhotra: What would it take for us to all apply the same standards? It seems like we're all fighting each other.

Minkley: It doesn't make sense. If nursing had had the same stick-to-itiveness with challenging respiratory care in the beginning, the field wouldn't be what it is today. But now respiratory care seems to want to challenge the sleep folks, who are behind them in the development, but are developing quickly, responsibly, and similarly to respiratory care itself. We should work together and make it work for our patients, because we're both wasting resources.

Carlin: From what I understand, conversations have occurred at the highest levels of both the AARC [American Association for Respiratory Care] and the AASM to try to work out something reasonable and fair for everyone.

Malhotra: I understand that they weren't even talking for a long time, though.

Carlin: In September 2009 the leadership of AARC and AASM met in Chicago to discuss the various issues related to the practice of sleep medicine, as far as both societies go. The meetings apparently went well, and ongoing discussions will be held to help further define the issues. I think what everyone needs to realize is that there

is a minimum standard for certification of technologists and RTs practicing sleep medicine, and that there are now 2 testing processes that can be used in that certification determination.

Minkley: It's an interesting challenge. Sleep is a new profession and it's grown up in the internet age and the age of direct consumer advertising, where the demand for sleep medicine and technology services comes much more quickly than it did for respiratory care. I think if the field had grown up in an earlier age, as did respiratory therapy, we wouldn't be having these issues. But the demand is so high, we should be working together to make sure qualified people are not only with our patients in the sleep centers but all the other places RTs need be where there's a demand for them that can't be met. Forcing sleep centers to require RRTs without specific training in all the aspects of sleep medicine and technology other than ventilation where they don't have expertise is irresponsible for sleep center patients and creates a shortage in other areas where RRTs are needed.

The sleep field is developing education pathways just like respiratory care did; the processes are the same, the evolution is the same. Certificate and degree schools are coming online at a fast pace. A curriculum has been developed by the AAST [American Association of Sleep Technologists], which used to be the APT [Association of Polysomnographic Technologists]. The curriculum is available and developed the same way and through the same process as our respiratory curriculum. It's being offered in schools, and many times it's paired with an associate degree in either respiratory care or an EEG [electroencephalography] program to make it easier for the schools to implement those that are already running. You combine the students within those programs for basics and then separate them for the sleep part of the curricu-

ulum. Oftentimes the RTs are taking the sleep components in addition to their respiratory curriculum, so they're coming out eligible for dual credentials: sleep and respiratory. The same for neurodiagnostic schools. It's a win-win situation all the way around.

Malhotra: Hopefully, this is not a radical suggestion, but would it make any sense for us to include in this discussion that there was general agreement that we should work together?

Parthasarathy: Yes, I think that's a great idea. It appears that there are many sleep societies and then we also have all the official state societies, so what struck me is that the side-by-side comparisons of standards that you showed for the SDS and the RPSGT are very comparable. What's wrong with joining forces?

Malhotra: I'm not sure that we should necessarily draw that conclusion, just based on this, but the general concept is that we should all work together for the health of our patients.

Minkley: Absolutely. In Michigan the respiratory groups have been around longer and we have stronger state organizations to help lobby within the state legislature for the needs of our patients. We joined forces. It makes more sense economically. We have our meetings together, we mix together, and we're trying to get the EEG folks in as well so that we don't lose the richness that came from the original development of the field through the EEG folks, which we lose a lot of when we focus only on sleep apnea. That's another group of people we don't want to forget, because they're important to sleep medicine.

Parthasarathy: Stuart, do you have a sense of the academy's sentiments? I know you don't speak for them, but...

Quan: I don't know. But I do have a question. With the future of poly-

somnography being increasingly driven toward ambulatory testing, it raises the question of what will be the job description and need for polysomnographic technicians? As long as there's testing, obviously you will need some people to do the testing. I wonder whether the field might evolve to a more educational type thing or just focused on treatment rather than the testing aspect?

Carlin: I think that's one of the reasons the NBRC developed the SDS exam, on which there is a higher percentage of questions regarding treatment options and patient-education options. Every 5 years both the NBRC and the BRPT conduct a job analysis of the field so that the examinations will reflect what is current in the field. As things change over the years to come, the job analysis will reflect those changes, and then subsequent changes to the examination will be made.

Minkley: It's every 5 years or sooner if there are significant changes. If practice changes, the job task analysis will reflect that. That's why an exam is standardized and validated, because you're referencing it to actual practice—not what we think they *should* do, we're testing them on what they actually *do*.

Bolig: I'd like to discuss the licensure issues that are going on nationwide. I think the important thing to remember is that oftentimes it's not the actual credentials that are being questioned. I don't think the validity of the RPSGT credential is being questioned, and I don't think that in the future the validity of the SDS credential will be questioned either, because I believe they're both valid credentialing exams for people working in sleep medicine.

I think what happens at the political level, and often happens in politics, is that it's the way the proposed licensure laws are written. I believe that the professional organizations for both

respiratory and sleep support the validity of the credentials and believe in the value of education, but it's when the political writers get involved and start putting in exclusionary clauses or saying, "This credential is better than the other," that we start digging trenches and fighting. All of us in this room are tired of this and wish it would go away, because we just want to take care of our patients.

With that said, I always want to encourage everyone who is working in that arena to think about their practices and what they hope to see for their patients, and to never forget the need for the education of the practitioners from physicians down to the technicians. The education of the people giving this care is really important. Stuart had a great point when he talked about how the job of taking care of these patients from the non-physician level will change as our technology changes, and I think the credential and the testing for professional credentials at that level is going to evolve from the technology of "How do I do a study?" to "I've diagnosed this person and how can I take care of them? How do we manage their disease?"

That's what I do. I love the testing, I love the diagnosis, but really my job is about how I take care of the patients in a wellness setting. How can I influence people who don't have sleep disorders but are at risk of having sleep problems due to lifestyle decisions? I think that there is going to be a definite change in what the credential is going to be an example of in the future.

Some CMS standards require credentialing of sleep staff to get reimbursed for sleep testing. All 4 of the DME MACs [durable medical equipment Medicare administrative contractors] put into place physician guidelines for the interpretation of home sleep testing and portable monitoring, and that includes that the physician who reads the portable-monitoring test results must be board-certified in sleep

by either the ABSM [American Board of Sleep Medicine] or the ABMS [American Board of Medical Specialties] in the sleep subspecialty programs that started to be offered in 2007. The stipulation is that if you're not board-certified, you must be a staff member of an AASM accredited facility.

My point is that the exact same standards for the eligibility for interpreting a Medicare-reimbursed sleep test go into effect in January 2010 for all in-lab sleep testing as well. I would like the physicians to comment on how they're going to respond to that. A lot of physicians who do testing or are involved in sleep are not board-certified. We need to regulate ourselves, or someone else will be regulating us.

Gay: I was involved in a lot of the portable monitoring dialogue, and I've spent many hours on this. Ultimately, it was not as much trying to regulate the physicians doing the home studies, but CMS was fearful that the vendors would get involved. In fact, when vendors heard that portable monitoring was an inevitability, at that point they were coming to physicians and asking, "How do you want to partner with us so that we can get this program going?" I was approached, as were other physicians I know across the country.

CMS immediately became aware that the vendors thought that there was potential to really market portable monitoring themselves. That's where CMS said, "We don't want the fox anywhere close to the chicken coop," and it became more about how to regulate DME vendors than us. This is also when the huge follow-up documentation burden was laid primarily on the HME community.

Parthasarathy: I agree. I think physician certification is an important piece of this, and I share your sentiment regarding us regulating ourselves. The Institute of Medicine puts out a report on healthcare quality¹ every few years, but they don't always

seem to be acted upon. It talks about how even credentialing/accreditation should involve other pieces in terms of self-evaluation modules.

I'm due to take the boards, and we have these different set modules where it involves sending out questionnaires to our patients to ask them to rate us on how we're doing. Part of that could qualify as a module, or being involved in the hospital with quality-assurance in reducing VAP [ventilator-associated pneumonia] or something like that. Soon some of these recommendations are going to be adopted and taken more seriously. The board examination is part of that process, and it's here to stay, and we'll live and die by it, and I think it will be better for patient quality of care and benchmarks around the country; I think it's a good thing.

I think all these benchmarks are comparable. I think the common theme should be that everybody should join hands, rather than forming little cottage-industry entities with a narrow view. I have written down all the letters of the alphabet twice over, and I still don't have it all right in my head, and I'm thinking, there are going to be young people trying to pick which exam, and it wasn't until Stuart asked whether the SDS is recognized by Medicare that I realized it was not. So

if I was a young technician with a limited amount of money to put into exams and I found out that a particular lab can't hire me because I took the wrong exam—I think that's a tragedy for that individual.

We should put our political wrangling aside and find out how we can join hands. I'm not asking that the societies merge, but I think there should be common boards between the two.

1. Institute of Medicine of the National Academies; Greiner AC and Knebel E, editors. Health professions education: a bridge to quality. Washington, DC: National Academies Press; 2003. http://books.nap.edu/openbook.php?record_id=10681. Accessed June 25, 2010.

Malhotra: Home sleep testing is an opportunity in a sense, because we're going to have to redefine what an RPSGT is and does. Same with the RTs involved in sleep. This is an opportunity for us to all come to the same table and write down criteria that everybody agrees are useful for whatever kind of sleep technician in 2015.

Quan: With respect to Suzanne's [Bollig] question, as far as accreditation of physicians goes, I think before I was born the board exams were completely voluntary. Passing the board exams was a recognition of excellence,

but there was no pressure to take boards. My mentor, Benjamin Burrows, was a well recognized pulmonary physician who never took the pulmonary boards, although I think he gave the exam.

But nowadays, not just in sleep, if you don't pass your subspecialty examination, it's very difficult for you to actually practice medicine. The fact that Medicare requires sleep tests to be interpreted by board-certified physicians is just the train going down the track. Pretty soon hospitals won't let surgeons operate unless they have a certificate from the American Board of Surgery within a couple years of finishing their residency, and it'll be the same for pulmonary and critical care doctors and neurologists. I don't see that as a departure from where we've been going.

Parthasarathy: I'd voice the same sentiment. But I don't think politicians should be mediating these societies. I think they're the worst mediators, seeing what's happened. So going to our legislatures and trying to push something I think only puts up further roadblocks to getting people to agree with each other. So I'm just going to summarize everything with a nice quote for Rajiv: Why can't we all just get along?