Commission on Accreditation of Allied Health Education Programs

Standards and Guidelines
for an Accredited Educational Program in Electroneurodiagnostic Technology

Essentials/Standards initially adopted in 1973; revised in 1980, 1987, 1994, and 2002 by the:

American Clinical Neurophysiology Society

American Society of Electroneurodiagnostic Technologists

American Society of Neurophysiologic Monitoring

and

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 Education in Electroneurodiagnostic Technology (CoA-END).

These accreditation *Standards* are the minimum standards of quality used in accrediting programs that prepare individuals to enter the profession of Electroneurodiagnostic Technology (END) or Electroneurodiagnostic with Polysomnographic Technology (END/PSG). The accreditation *Standards* therefore constitute the minimum requirements to which an accredited END or END/PSG program is held accountable.

These standards and guidelines apply to programs seeking accreditation in Electroneurodiagnostic Technology or Electroneurodiagnostic with Polysomnographic Technology.

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 Programs, American Clinical Neurophysiology Society, American Society of Electroneurodiagnostic Technologists and American Society of Neurophysiologic Monitoring cooperate to establish, maintain, and promote appropriate standards of quality for educational programs in electroneurodiagnostic technology or electroneurodiagnostic with polysomnographic 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 an END or END/PSG program. On-site review teams assist in the evaluation of a program's relative compliance with the accreditation *Standards*.

I. Sponsorship

A. Sponsoring Educational Institution

A sponsoring institution must be a post-secondary academic institution accredited by an institutional accrediting agency that is recognized by the U.S. Department of Education, and must be authorized under applicable law or other acceptable authority to provide a post-secondary program that awards a minimum of a certificate or diploma at the completion of the program, or must be a branch of the United States Armed Forces.

The CoA-END strongly recommends and endorses awarding an associate's degree or higher at the completion of the program. The CoA-END therefore recommends that certificate programs be reserved for those students who already possess or simultaneously receive an associate's degree or higher.

B. Consortium Sponsor

1. 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 educational institution as described in I.A.

2. 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.

C. 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, college 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.

The instructional plan, including curriculum content and length, credits granted, evaluation, and documentation of student progress should be designed to enable achievement of program goals and outcomes.

The program should document its strategy for monitoring community needs on an annual basis.

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 sponsoring

institutional personnel in formulating and periodically revising appropriate goals and learning domains, monitoring needs and expectations, and ensuring program responsiveness to change.

The program should demonstrate that it has consulted the community through the Advisory Committee. Other resources may also be used to establish community needs and satisfaction. It should identify the committee composition, mission, goals, functions, and conclusions in relation to the program. The program should document how complaints are addressed and describe how new needs are met.

C. Minimum Expectations

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

Nothing in this Standard restricts programs from formulating goals beyond entry-level competence.

Each program should incorporate within its goals and objectives the expectation that graduates consistently demonstrate competence at the level for which they are prepared. These statements should identify specific competencies representing the learning domains (knowledge, technical skills, and behavior) expected of program graduates. These competencies should provide the framework for structuring the program's instructional plan and for defining the objectives of its curriculum.

Programs are encouraged to consider preparing advanced level or specialized practitioners, and to address other appropriate needs identified by the communities of interest.

The basic competencies should be derived from and encompass nationally accepted standards of practitioner roles and functions as periodically defined by the appropriate organizations.

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.

Facilities should meet the needs of the program. For example, a classroom or laboratory should be able to accommodate the assigned number of students. It should be well lit and ventilated, furnished and equipped according to the standards of an accredited educational institution, and available at times commensurate with the needs of the program and its students.

Equipment and supplies should be functional and representative of current clinical practices. The quantity and quality of equipment and supplies should meet program requirements.

Learning resources should be accessible to students outside of regular classroom hours, e.g. evenings and weekends. Instructional plans should promote student utilization of these resources.

Examples of computer resources are computer-assisted instruction materials, patient care simulations, and access to Internet resources.

The program should periodically evaluate each clinical facility with respect to its continued appropriateness and its ability to meet the expectations of the program. Clinical affiliates should conform to professional standards of practice, standards established by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and by other health care accrediting entities where applicable.

1. Physician Interaction

Physician interaction and input must be available for instruction of students to enable achievement of the program's goals and outcomes.

The purpose of the instructional interaction and input is both to convey information and perspective, and to develop effective communication skills between physicians and students.

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. Required Position(s)
a.   Program Director
(1) Responsibilities

To assure achievement of the program's goals and outcomes, the Program Director must be responsible for the continuous review, planning, development, and general effectiveness of the program and professional content.

The Program Director, as defined here, should provide input and participate in all aspects of the program. However, the Program Director is not required to have primary responsibility for the organization and administration of the program if the sponsor identifies another to provide those services to the program.

Two qualified individuals may share the responsibilities of the Program Director as Program Co-Directors for END/PSG programs. However, responsibilities and qualifications must be clearly delineated and there must be documentation that the Co-Directors function as one and not independently.

(2) Qualifications

The Program Director must hold active verifiable certification or registration within the profession(s). The Program Director must possess at least an Associate's Degree and clinical experience.

The Program Director should be a person distinguished by a high degree of sophistication and experience. This person should have demonstrated talents for leadership, organization, and teaching. Additional academic credentials appropriate to the faculty position may be required by the degree-granting sponsoring institution. There should be documentation that the Program Director maintains his/her clinical and technical skills and participates regularly in continuing clinical education.

The Program Director should have a minimum of two years clinical experience as a practicing technologist. However, realizing that there may be some instances when qualified individuals do not meet the clinical experience requirement, Program Directors may petition the CoA-END for consideration of a clinical experience waiver. Required documentation should include complete and extensive description of clinical experience or other substantiating education and experience (past, present, or future), clinical references, and an action plan and timeline to obtain the required experience.

b. Medical Director
(1) Responsibilities
The Medical Director of the program must provide the input necessary to ensure that the medical components of the curriculum, both the didactic and supervised clinical practice, meet current standards of medical practice. He/she shall promote the cooperation and support of practicing physicians.

Two qualified individuals may share the responsibilities of the Medical Director as Co-Medical Directors for END/PSG programs. However, responsibilities and qualifications must be clearly delineated.

(2) Qualifications
The Medical Director must be a licensed physician, with recognized qualifications within the profession.

The Medical Director should be a person distinguished by a high degree of sophistication and experience. This person should have demonstrated talents for leadership, organization, and teaching. The Medical Director is encouraged to hold active verifiable certification in a speciality appropriate to the profession(s). Additional academic credentials appropriate to the faculty position may be required by the degree-granting sponsoring institution. There should be documentation that the Medical Director maintains his/her clinical skills and participates in continuing medical education.

c. Faculty and Clinical Instructional Staff
(1) 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.
(2) Qualifications
Instructors must be appropriately credentialed, knowledgeable in subject matter by virtue of training and experience, and effective in teaching assigned subjects.

Registration or certification is offered in both generalized and specialized areas of the profession(s). These include: Registered Electroencephalographic Technologist (R. EEG T.), Registered Evoked Potential Technologist (R. EP T.), Registered Polysomnographic Technologist (RPSGT), Registered Electrodiagnostic Technologist (R. EDT.), Certification in Neurophysiological Intraoperative Monitoring (CNIM), and certification awarded through the American Board of Neurophysiological Monitoring.

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.

Program competencies should provide the basis for deriving the objectives and activities constituting the program's curriculum. The competencies stated and the curriculum objectives derived should be consistent with the level of practitioner preparation delineated in the program's goals, and should encompass the knowledge, technical skills, and behavior expected of graduates.

Curricular content should be periodically reviewed and revised to reflect current benchmark data. The American Board of Registration of Electroencephalographic and Evoked Potential Technologists® (ABRET) and the Board of Registered Polysomnographic Technologists (BRPT) publish "content outlines" for their examinations, which can be used as frameworks in curricular development. Professional competencies should also serve as frameworks in curricular development.

Competencies should be achieved within the framework of appropriately sequenced units, modules, and courses of instruction in general studies, basic science, general technology, and focused technology accompanied or followed by a series of structured laboratory and clinical experiences.

If there is more than one curriculum design, the program should demonstrate that graduates of all program designs are equally competent. An example of multiple program design is the addition of distance learning to traditional instructional methods.

*In meeting the requirements of state and institutional accreditation, the following units, modules, and courses of instruction **may** be appropriate:*
1. *General Education*
    Mathematics
    Written and Oral Communication
    Social/Behavioral Sciences
    Computer Science
    Critical Thinking Skills
    Assessment
2. *Basic Sciences*
    Human Anatomy and Physiology
    Pharmacology
3. *General Technology*
    Patient Preparation
    Recording Techniques
    Clinical Medicine
    Electronics and Instrumentation
    Laboratory Management
    Management of Medical Emergencies including Cardiopulmonary
        Resuscitation
    Pertinent Legal and Ethical Issues
    Infection Control
    Credentialing
    Membership in Professional Associations
    Professional Behavior
    Cultural Awareness/Diversity
    EKG Waveform Recognition
4. *Focused Electroneurodiagnostic Technology*
    Clinical Electroneurodiagnostics
    Neuroanatomy and Physiology
    Electrographic and Clinical Correlations

*For END/PSG accreditation the following additional units, modules, and courses of instruction **may** be appropriate:*
5. *Focused Polysomnographic Technology*
    Clinical Polysomnography
    Respiratory Anatomy and Physiology
    Electrographic and Clinical Correlations
    O2, PAP titration (continuous or bilevel)

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.

Resource assessment includes the systematic collection of data to determine how effectively resources are being utilized, analysis of these data and development of an action plan, if required, to address any shortcomings.

Records of implementation of the action plan should be maintained for the program. Records should include purpose, measurements, results, analyses, and follow-up.

The format for resource assessment documents should include purpose statements, measurements systems, dates of measurement, results, analyses, action plans, and follow-up.

IV.   Student and Graduate (Outcomes) 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 program should provide evidence that the evaluation system is conducted on a regular and ongoing basis.

The evaluation system should provide each student and the program with analysis of the student's knowledge, performance-based strengths and areas for improvement, and progress toward attainment of the competencies and objectives stated in the curriculum.

Faculty should demonstrate that the evaluation methods chosen are consistent with the competencies and objectives being tested. Methods of assessment should be carefully designed and constructed 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 in the cognitive, affective, and psychomotor domains.

The program should be able to demonstrate inter-related reliability among those individuals who perform evaluations.

In order to ensure their effectiveness, evaluation methods should undergo frequent reappraisal. The program should demonstrate appropriate updating and revision of the methods employed, or in the formulation of more effective methods.

2. Documentation

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

Programmatic student records should include sufficient information to document satisfactory completion of all didactic, laboratory, and clinical requirements.

Records of student evaluation should be maintained in sufficient detail to document learning progress, achievement of competencies and deficiencies. These records should remain on file until after the student has successfully completed all degree plan requirements for graduation. Records maintained by the institution should be complete even if a student is not successful in completing the prescribed course of instruction.

B. Outcomes Assessment
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.

"Assessing effectiveness" is done through evaluations such as graduate performance measures, employer and graduate satisfaction, job placement, and attrition.

Program evaluation should be a continuing systematic process in consultation with employers, faculty, clinical instructors, students and graduates, involving internal and external curriculum validation. The program should provide evidence of follow-up studies of graduates that evaluate their employment and national examination performance.

Competency in the cognitive (knowledge) domain should be demonstrated by the graduates' success in passing a professionally recognized national certification or registration examination. The program should achieve a favorable pass rate when compared to national norms. Data should be trended and cumulated over a three to five year period.

Competency in the psychomotor (skills) domain could include successful completion of technical competencies required for employment.

Competency in the affective (behavior) domain could include maintenance of membership in a state, regional, and/or national professional organization.

One competency may evaluate more than one domain. If this is the case, the program should identify specific domains and how they are being assessed by the one competency.

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.

Submission of reports would be to the CoA-END in accordance with the established policies and timetables.

V. Fair Practices

A. Publications and Disclosure
1. Announcements, catalogs, publications, and advertising must accurately reflect the program offered.
2. At least the following shall 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, 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 shall be a faculty grievance procedure made known to all paid faculty.

C. Safeguards

The health and safety of patients, students, and faculty associated with the educational activities of the students must be adequately safeguarded.

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 Changes

The sponsor must report substantive change(s) to the appropriate parties in a timely manner. The program must notify the CoA-END Executive Office of any changes in the following:

1. Program Director
2. Medical Director
3. curriculum, including department changes, college-wide changes, and those changes made in other departments (i.e. general education) that have an impact on the program
4. the admission process and procedures
5. the mechanisms used for monitoring assessment strategies and communicating with students concerning competencies in the three domains of learning.

F. Agreements

There shall 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

Maintaining and Administering Accreditation

A.   **Program and Sponsoring Institution Responsibilities**

    1.   **Applying for Accreditation**

        a.   The accreditation review process conducted by CAAHEP can be initiated only at the written request of the chief executive officer or an officially designated representative of the sponsoring institution.

        This process is initiated by requesting a "Request for Accreditation Services" form from the Committee on Accreditation for Education in Electroneurodiagnostic Technology (CoA-END), CAAHEP or the CAAHEP website at www.caahep.org.

            The application once completed should be returned to:

            CoA-END
            7600 Hunters Hollow Trail
            Novelty, Ohio 44072-9541
            Phone/Fax: 440-338-5845

        b.   CAAHEP requires the sponsoring institution to notify its communities of interest when a program is being considered for initial or continuing accreditation and to mention that third party comment concerning the program's qualifications for accreditation may be submitted in writing to CAAHEP.

        c.   In addition to the CAAHEP "Request for Accreditation Services" form, programs applying for accreditation are required to complete both a self-study document and a comprehensive on-site review. The self-study document is available from the CoA-END. The comprehensive review will be scheduled in cooperation with CoA-END once the self-study document has been completed and reviewed.

    2.   **Administrative Requirements for Maintaining Accreditation**

    To maintain accreditation, the following actions are required:

        a.   The program must submit the *Self-Study Report* or the required progress report within the timeframe determined by the CoA-END.

        b.   All programs that are CAAHEP accredited must have a comprehensive on-site review at least once every ten years. Therefore, the program must agree to a site visit date that is within the timeframe that was described in the last letter of accreditation received from CAAHEP. The date of this visit is to be coordinated with CoA-END.

        c.   The program must inform CoA-END and CAAHEP within a reasonable period of time (as defined by the committee on accreditation and CAAHEP) of changes in required program personnel.

        d.   The sponsoring institution must inform CAAHEP and CoA-END of its intent to transfer program sponsorship, in accordance with CAAHEP policy, including the completion of a new CAAHEP "Request for Accreditation Services" form. Applying for a transfer of sponsorship in no way guarantees that such a transfer of accreditation will be granted.

e.   The program and the sponsoring institution must pay CoA-END and CAAHEP fees within a reasonable period of time, as determined by CoA-END and CAAHEP respectively. Failure to pay fees will result in the program being placed on administrative probation. If not resolved, administrative probation can lead to the withdrawal of accreditation.

f.   The sponsoring institution must promptly inform CAAHEP and CoA-END of any adverse decision affecting its accreditation by recognized institutional accrediting agencies and/or state agencies.

g.   The sponsoring institution must promptly inform CAAHEP and CoA-END of any intended substantive changes for the institution or program, specifically, of the institution's mission or objectives if these will affect the program; of the institution's legal status or form of control; of the addition of courses that represent a significant departure in content or in method of delivery; of the degree or credential level; of clock hours to credit hours or vice versa; of a substantial increase in clock or credit hours for successful completion of a program or in the length of a program.

Failure to meet any of the aforementioned administrative requirements may lead to administrative probation and ultimately to the involuntary withdrawal of accreditation. Administrative probation is rescinded immediately upon the rectification and verification that all deficiencies have been corrected and/or that fees have been paid.

3.   Any institution sponsoring a program may request a voluntary withdrawal of accreditation from CAAHEP at any time. To initiate a voluntary withdrawal the institution must notify CAAHEP in writing of its desire to discontinue the program's accreditation status. The letter must be signed by the president/CEO (or an officially designated individual) of the institution and indicate when the last class of students graduated or will graduate, the desired effective date of the voluntary withdrawal and the location where all records for students who have completed the program will be kept.

B.   CAAHEP and Committee on Accreditation Responsibilities

1.   Administering the Accreditation Review Process

a.   If an institution is already CAAHEP accredited, the CoA-END will begin by assessing the program's current status and relative compliance with the *Standards*. (If applying for provisional or initial accreditation please refer to Appendix A, Section A 1. Applying for Accreditation.) **Note:** There is **no** CAAHEP fee when applying for accreditation services. However, individual committees on accreditation may have an application fee that is payable prior to the receipt of the self-study documents.

The accreditation review process includes a written self- study, and a comprehensive on-site evaluation of the program. If the institution is not satisfied with the performance of the site visit team, the institution may request a second site visit with a different team.

The sponsoring institution is also provided the opportunity to comment in writing on the report of the site visit team and to correct factual errors prior to the CoA-END transmitting the accreditation recommendation to CAAHEP.

b.   If the recommendation of CoA-END is one of probation then the sponsoring institution is provided the opportunity to request reconsideration. The CoA-END's reconsideration of a recommendation for probationary accreditation is based on conditions existing both when the committee arrived at its recommendation and on subsequent documented evidence of corrected deficiencies provided by the applicant.

c. CAAHEP awards of Probationary Accreditation are final and are not subject to appeal. However, the sponsoring institution may voluntarily withdraw its application for accreditation any time prior to CAAHEP taking action on the CoA-END recommendation for probationary accreditation.

2. Withholding or Withdrawing Accreditation

a. Before recommending to CAAHEP that accreditation be withheld or withdrawn, the CoA-END must provide the sponsoring institution with the opportunity to request reconsideration. CoA-END's reconsideration of a recommendation for withholding or withdrawing accreditation is based on conditions existing both when the committee arrived at its recommendation and on subsequent documented evidence of corrected deficiencies provided by the applicant. The sponsoring institution may choose to voluntarily withdraw its application for accreditation any time prior to CAAHEP taking action on the CoA-END recommendation.

CAAHEP decisions to withhold or withdraw accreditation may be appealed. A copy of CAAHEP Appeals Procedures for Withholding or Withdrawing Accreditation is enclosed with the letter notifying the sponsoring institution of one of these actions. When accreditation is withheld or withdrawn, the sponsoring institution's chief executive officer is provided with a clear statement of each deficiency and is informed that if the institution chooses not to appeal that the institution may newly apply for accreditation once the program is believed to be in compliance with the accreditation *Standards*.

b. Any student who has successfully completed a program that was accredited by CAAHEP at any time during his/her matriculation is regarded as a graduate of a CAAHEP accredited program.

3. Inactive Programs

a. A program may request inactive status from CAAHEP for a period of up to two years. No students may be enrolled in an inactive program. To reactivate the program the institution must inform, in writing, both CAAHEP and COA-END of its intent to do so. The program and its sponsoring institution must continue to pay all required fees to both COA-END and CAAHEP while inactive in order to maintain its accreditation status.

b. A program that does not enroll students for more than two years is considered discontinued and will have its accreditation withdrawn. Such a withdrawal is not subject to appeal.