ELECTROENCEPHALOGRAPHIC SERIES

Code No.	Class Title	Occ. Area	Work Area	Prob. Period	Effective Date	Last Action
3945	Electroencephalographic Technician	02	446	6 mo.	00/00/00	Rev.
3950	Electroencephalographic Specialist	02	446	6 mo.	00/00/00	Rev.
0000	Electroencephalographic Supervisor	03	446	6 mo.	00/00/00	Rev.

Promotional Line: 158

Series Narrative

Employees in this series operate and monitor Electroencephalographic (EEG) equipment in a hospital, clinic, or other medical facility as part of the diagnostic examination or treatment plan for patients.

The EEG equipment measures impulse frequencies and differences in electrical potential between various portions of the brain and records the data as a series of irregular lines on a continuous graph; the recordings are used by medical practitioners in the diagnosis of brain disorders.

EEG Technicians also perform special EEG examinations for medical studies requiring in-depth investigations, such as studies requiring hyperventilation, induced sleep, photo-stimulation, epilepsy detection, or the location of focal irregularities.

Performs neurophysiologic procedures, including EEG and Evoked Potential (EP) under the supervision of higher level employees.

Higher level Technicians allocate, supervise, and evaluate the work of lower level staff members and instruct them in EEG techniques.

EEG Technicians typically--

--obtain information from the patient relating to the examination to be performed

--prepare the patient for the examination

--check and maintain the equipment to be used

--perform the EEG examination, and

--interpret recordings on a preliminary basis

DESCRIPTION OF LEVELS OF WORK

Level I: Electroencephalographic Technician 3945

Under direct supervision of higher level personnel, employees at this level conduct examinations of patients to provide clinicians with EEG data to be used in the diagnosis, treatment, and/or prognosis of diseases or injuries.

An Electroencephalographic Technician I typically –

1. compiles information about each patient such as history of mental retardation, drug addiction, or epileptic seizures; prior to examination, cleanses the patient's scalp area for removal of oils, dust, and foreign substances; applies paste to predetermined areas of the scalp and attaches electrodes to the same areas, assists the patient to lie comfortably and in a relaxed position for the examination; and uses patience and tact in securing cooperation of the patient

2. inspects equipment for proper performance, i.e., calibrates the scale of the EEG machine into appropriate units; cleans, oils, and makes repairs such as checking the power supplies to EEG equipment and accessories such as photo-stimulator and video camera

3. performs impedence check and initiates digital exam; observes patient and recording apparatus during examination to prevent the occurrence of artifacts (extraneous patterns or waves) caused by patient's movements (such as eye blinking and swallowing) or technical defects (such as improperly applied electrodes, inaccurate calibration, or outside electrical interference); observes and records clinical symptoms (such as seizures or convulsions of patients) during recording periods and marks tracings whenever an abnormality occurs

4. performs emergency first-aid on patient to counteract convulsions, e.g., makes patient secure from injury by removing objects near patient, and placing padding on the bed

5. performs special EEG examinations for in-depth medical studies and in cases of suspected cerebral deaths

6. downloads data from EEG machine to EEG server for interpretation; provides preliminary interpretation and/or determinations from readings and tracings by pointing out abnormal and normal tracings

7. removes soiled linen and instruments from examining room after each patient visit and ensures that appropriate-supplies and equipment are available for next use

8. maintains records on patients and tests and compiles daily work reports

9. applies photic stimuli and/or hyperventilation as required by the examination and directed by the attending physician

10. performs EEG, EP and other neurophysiologic procedures:

    a. acquires pertinent history from patient, family, or medical records

    b. applies the theory of operation, controls and recording mechanisms to the patient care situation

    c. uses EEG and EP equipment for checking the impedance of applied electrodes

    d. differentiates between artifacts and examples of normal and abnormal EEG and EP patterns

11. performs related duties as assigned

Level II: Electroencephalographic Specialist 3950

Under general supervision from higher level personnel, employees at this level instruct lower level staff in techniques used in electroencephalography; and perform complex technical duties.

An Electroencephalographic Technician II typically –

1. instructs and demonstrates for lower level Technicians and trainees the methods and techniques to be used in giving EEG examinations

2. performs routine EEG procedures:

    a. determines independently from reading tracings if localization studies are needed to pinpoint abnormalities; determines the number and arrangement of electrodes on the patient's skull; and makes as many recordings as necessary for interpretation of brain disorders by medical officers

    b. participates in complex studies conducted by medical officers, such as special surgery cases, WADA tests and BOT.

3. keeps records and prepares reports:

    a. requisitions maintenance and/or emergency assistance e.g., contacts electronic engineers in case of EEG equipment malfunction.

    b. develops monthly budget with higher level personnel.

    c. answers inquiries from other hospitals and clinics regarding EEG procedures and sends digital data as appropriate.

4. communicates with hospital staff and/or patients concerning appointments, instructions, and preliminary reports

5. oversees departmental utilization and participation in hospital-wide electronic information system, including but not limited to requisitioning, results reporting, and medical record retrieval

6. interacts with external peer organization, vendors, clients, and service organizations

7. attends departmental meetings

8. facilitates Departmental QI projects with higher level personnel

9. performs duties at lower level

10. performs related duties as assigned

Level III: Electroencephalographic Supervisor 0000

Under general supervision from academic staff members, employees at this level supervise and coordinate the work of subordinates; instruct subordinates in techniques used in electroencephalography; and perform complex technical duties.

An Electroencephalographic Technician III typically –

1. supervises and instructs lower level employees:
    a. schedules examinations and assigns patient to Technicians.
    b. instructs and demonstrates for lower level Technicians and trainees the methods and techniques to be used in giving EEG examinations.
    c. evaluates work performance of lower level employees, such as reviewing electroencephalograms prepared by Technicians for quality and accuracy, disciplining Technicians, and editing and reviewing work of Technicians to be forwarded to medical officers for interpretation; and reviewing work end progress of trainees.
    d. interviews and hires/selects new employees and trainees.
2. keeps records, prepares reports and statistical analyses:
    a. orders and records EEG and office supplies.
    b. compiles monthly report of total recordings made in the department.
    c. develops and submits monthly budget reports to Director.
    d. maintains employee personnel files.
3. communicates with hospital staff and/or patients concerning appointments, instructions, and preliminary reports
4. conducts staff meetings for Technicians; attends departmental meetings
5. coordinates and implements Departmental QI program
6. performs duties at lower levels
7. performs related duties as assigned

MINIMUM ACCEPTABLE QUALIFICATIONS REQUIRED FOR ENTRY INTO:

Level I: Electroencephalographic Technician 3945

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent

2. (a) successful completion of a 12-month training program in electroencephalographic techniques.

or

(b) one (1) year (12 months) of work experience and/or on-the-job training which provided a knowledge of generally accepted principles, theories, and practices of electroencephalography and their applications to clinical problems and which was of such scope, level, and quality as to assure the applicant's overall ability to undertake entry-level EEG technician duties. Such work experience and/or on-the-job training must be evaluated on the basis of their/its comparability to formal training programs in EEG techniques, taking into account the relationship of the work experience and/or on-the-job training to the content of the instruction and clinical practice normally included in such formal programs.[1]

KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Knowledge of EEG terminology, equipment, and techniques

2. Knowledge of anatomy, physiology, neurophathology, diseases of the nervous system brain injuries, developmental defects, and neurological and neurosurgical techniques other than EEG

3. Knowledge of electrical safety practices

4. Knowledge of all regulatory authorities, including, but not limited to, JCAHO, IDPH, and/or OSHA

5. Computer proficiency for input and integration with global hospital applications

6. Skill in the operation and maintenance of EEG equipment

7. Skill in making preliminary interpretations of EEG recordings

8. Skill in handling patients in a clinical seizure

9. Willingness to, and skill in, dealing effectively with patients, family of patients, hospital staff, and other persons from inside or outside hospital

10. Skill in taking and developing patient histories

11. Skill in keeping records and writing reports

12. Ability to follow written and oral instructions

[1]In substituting work experience and/or on-the-job training for formal programs, as provided above, it is recommended that in order to ensure consistent application of these qualifications, the evaluation and verification of an applicant's work experience and/or on-the-job training be accomplished through the cooperative efforts of an experienced EEG technician, electroencephalographer, and/or neurologist and the personnel office in a manner that will preserve the applicant's anonymity.

13. Ability to communicate effectively orally and in writing

14. manual dexterity

15. attention span of sufficient duration to record sleep tracings

Level II: Electroencechalographic Specialist 3950

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent

2. Any one or any combination of the following, totaling **three (3) years (36 months),** from the categories below:

    a. work experience performing duties comparable to those listed at the lower level of this series

    b. EEG registry exam certified (ABRET) – (clinical experience?)

*Note: A Bachelor's Degree in a closely related field may be substituted for one (1) year (12 months) of experience.

*Note: A Master's Degree in a closely related field may be substituted for two (2) years (24 months) of experience.

KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Ability to supervise the work of EEG trainees

2. Ability to instruct EEG Technicians and trainees

3. Ability to perform difficult technical procedures

Level III: Electroencechalographic Supervisor 0000

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent

2. Any one or any combination of the following, totaling **five (5) years (60 months),** from the categories below:

    a. work experience performing duties comparable to those listed at the lower level of this series

    b. EEG registry exam certified. (ABRET) – (clinical experience?)

*Note: A Bachelor's Degree in a closely related field may be substituted for one (1) year (12 months) of experience.

*Note: A Master's Degree in a closely related field may be substituted for two (2) years (24 months) of experience.

KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Ability to supervise the work of EEG technicians and trainees

2. Ability to instruct EEG Technicians and trainees

3. Ability to perform difficult technical procedures