

## CLINICAL NEUROPHYSIOLOGY TECHNICIAN IV

This is skilled work in the performance, instruction, and basic interpretation of evoked potentials studies and special electroencephalograms in the Clinical Neurophysiology Laboratory at North Carolina Memorial Hospital and the University of North Carolina at Chapel Hill. These studies are performed to diagnose neurological abnormalities, classify epilepsies, quantitate efficacy of treatment and localize areas of involvement of disease. Work is highly independent since it involves stimulating the patient as well as correlating brain electrical activity with the behavior of the patient. Work may include other duties as determined by management. Work is supervised by the Clinical Neurophysiology Laboratory Supervisor.

### I. DIFFICULTY OF WORK:

Variety and Scope - Procedures performed include visual, brainstem auditory, and somatosensory evoked potentials, electroretinograms, electrooculograms, standard EEG's, electrocerebral silence studies, neonatal EEGs, various portable studies, prolonged monitoring, sleep deprived studies, narcolepsy/sleep apnea studies, intraoperative EEG's, and EEG telemetry. Duties include those performed at the Clinical Neurophysiology Technician II level, as well as those associated with obtaining evoked potentials. Employees obtain a detailed patient history, select or devise a montage (electrode placement), may suggest additional modalities to the requesting physician, decide upon the kind, size, and/or-intensity of the stimulus, administer the stimuli, identify and solve artifact problems, make notations of-physiological variables, and interpret the adequacy of responses obtained. The employees ensure the data obtained is formatted appropriately, stored, and information critical to interpretation is visible on hard copy.

Intricacy - Test procedures are sequential and interrelated but require close visual attention, resourcefulness and considerable subject matter knowledge in order to evaluate study results while in progress. Work is complicated by the dynamic nature of the electrical activity being measured.

Subject Matter Complexity - Thorough knowledge of basic concepts in neurology, neuroanatomy, neurophysiology, neuropharmacology, and neuroophthalmology is required. Further, employees must demonstrate considerable knowledge of central and peripheral nervous system pathology and their various electroencephalographic pattern presentation, as well as proper modality and montage selection, and artifact awareness.

Guidelines - Department procedures, policies and standards are established but some initiative or research is necessary to enhance the quality of test procedures. Employees function independently with a thorough understanding of electroencephalographic and evoked potentials guidelines.

### II. RESPONSIBILITY:

Nature of Instructions - Selection of patient procedure is made by the requesting physician. Operating manuals for equipment and guides for procedure performance are readily available. The interactive nature of the procedures requires operational independence during procedure performance.

Nature of Review - All final reports are reviewed by the Clinical Neurophysiology Laboratory Supervisor and Electroencephalographer. Behavioral correlations and notations throughout the report are not reviewed since the technicians function independently.

Scope of Decisions - Employees must adjust protocols for particular situations and anatomy variations as well as modification, differentiation of artifact from electrical activity, and basic interpretation of electroencephalograms and evoked potentials studies.

Consequence of Decisions - Improperly recorded activity will lead to erroneous diagnosis, inappropriate or delayed treatment or withdrawal of treatment. Surgery might be incorrectly indicated or contraindicated. Potentially dangerous and expensive diagnostic tests will appear necessary as a result of false data interpretation based on artifact not noted by the employees.

### III. INTERPERSONAL COMMUNICATIONS:

Scope of Contacts - Employees communicate with patients of all ages, other technicians and medical staff.

Nature and Purpose - Employees obtain detailed history, explain procedures to and solicit cooperation from patients. Contact with technicians is for consultative purposes. Employees may recommend additional procedures or studies to medical staff or explain procedures and results to physicians unfamiliar with them.

### IV. OTHER WORK DEMANDS:

Work Conditions - Work is performed in an EEG laboratory, clinics, medical units, emergency room, or operating room.

Hazards - There is little danger to the employees except possibly from working with electrical equipment, difficult patients, or patients with contagious viruses. Employee: also work with patients in isolation.

### V. RECRUITMENT STANDARDS:

Knowledges, Skills, and Abilities - Thorough knowledge of the basic concepts of neurology, neuroanatomy, neurophysiology, neurophthalmology, evoked potentials, and electronics; considerable knowledge of neurophysiology procedures; skill in the operation of neurophysiology equipment; ability to obtain desired diagnostic results; ability to alter the instrument for best results, ability to interpret tests; ability to instruct clinicians in procedures; ability to gain the confidence and cooperation of patients.

Minimum Education and Experience - High school or General Educational Development diploma and completion of an AMA accredited Electrophysiology program and two years of experience performing a variety of neurophysiology procedures; or an equivalent combination of education and experience.