

RESPONSIBILITIES OF AN ELECTRODIAGNOSTIC TECHNOLOGIST

An electrodiagnostic medicine (EDX) technologist shall always work under the direct supervision and direction of a physician fully qualified in the practice of electrodiagnostic medicine, i.e., an EDX consultant, as defined by the guidelines of the American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM [formerly AAEM]). EDX technologists may perform whatever tasks necessary to improve the speed, efficiency, quality, and cost effectiveness of an EDX study, but shall not independently design the study or interpret the data. The specific test procedure and interpretation of the data must be decided by the EDX consultant. In addition, the technologist shall not interpret any of the primary data, either responses to electric stimulation or activity on needle recording.

The specific duties which an EDX technologist may perform fall into the following categories: patient handling, nerve conduction studies (NCSs), needle electromyography (EMG), examination, equipment, and clerical.

Patient Handling

The technologist may explain the test to the patient prior to the study and discuss any questions or uncertainties regarding it. In so doing, the technologist should reassure and calm the patient, especially children. The technologist may obtain and record basic patient information, such as age, problems, immediate needs, medications being taken, allergies, sensitivities, and previous studies. Pertinent physical characteristics may be noted, such as, deformities, atrophy, or lower extremity temperatures.

The technologist may prepare the patient for the study by assisting in the removal of clothing, dressing, braces and such, if directed to do so by the physician. Skin temperature may be taken by the technologist and the patient warmed, if necessary. The patient may be positioned for the study, and oral medication administered as directed by the EDX consultant.

NERVE CONDUCTION STUDIES

The technologist may prepare the limbs for NCSs by washing, drying, abrading, and immobilizing as needed. Recording electrodes may be placed in the appropriate locations indicated by the EDX consultant for the NCSs. Stimulating electrodes may be similarly applied and shocks administered to elicit the evoked responses. Appropriate measures should be taken to reduce shock artifact and twitch responses observed and described. Measurements may be made of distances between landmarks and electrodes, amplitudes and latencies of

The evoked responses, and skin temperatures. responses and measurements may be recorded on film, magnetic tape, or on direct writing paper for subsequent calculations and study. All responses not directly observed by the EDX consultant must be recorded in the original form for the consultant's review. The EDX consultant must be immediately available and present in the area to review any problems that develop during the NCSs. Photographs on film may be processed and prepared for permanent storage with the patient's record. The technologist should be sure the patient remains in the room until the supervising physician has reviewed the NCS results.

NEEDLE ELECTROMYOGRAPHY EXAMINATION

The technologist may position the patient and assist in obtaining relaxation or cooperation for the needle EMG examination. Needles may not be inserted by the technologist. Data may be recorded by the technologist in written form, on tape recordings, or in photographs. Any written descriptions of needle electrode recordings are interpretations and must be written only as dictated by the EDX consultant.

Equipment

The technologist may prepare the electrodes and clean and sterilize them after use. Electrode quality may be checked microscopically and by impedance measurements. Electromyographic equipment may be calibrated, maintained, and set up as needed for specific studies. Maintenance and operation of sterilization equipment may also be duties of a technologist. In addition, the technologist may be responsible for care and maintenance of emergency equipment, such as artificial ventilators and emergency medications.

CLERICAL

An EDX technologist may assume a number of secretarial or clerical duties in addition to the more technical duties. These may include making appointments, typing and filing reports, and classifying data by diagnosis or other categories for subsequent retrieval. Records may be kept of special studies and graphs or charts plotted of such studies. Additional duties may include: preparing charges for studies, obtaining outside records or histories prior to the study, obtaining special reports, such as of nerve or muscle biopsies after needle EMG examination, maintaining and ordering supplies, and having all materials in good condition and ready for use when needed.

Key Words: *electrodiagnostic medicine • technologist • nerve conduction studies • electromyography*

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