What Is the Career Outlook for Neurodiagnostic Technologists?

Based on the Bureau of Labor and Statistics' employment projections, there will be 11,000 future job openings in Neurodiagnostic Technology between 2016-2026. It is considered a "Bright Outlook" profession according to the O*Net Database due to the "much faster than average" projected growth (15% or higher") of the profession. Particularly strong growth areas are the specialty areas of long-term monitoring for epilepsy, ICU monitoring and intraoperative monitoring. There is a continuous need for well- educated neurodiagnostic technologists and the demand grows as new labs open and existing labs expand.

Check Out ASET's Recruitment Video

https://www.aset.org/i4a/pages/index.cfm?pageid=387

How Much Do Neurodiagnostic Technologists Earn?

Salaries depend on education, experience, level of responsibility, type of employment and area of the country. The mean salary for neurodiagnostic technologists with an associate degree is $62,268 and $70,551 for those that hold a bachelor's degree. The average lab manager/director's salary is $92,261and some NDT business owners and equipment salespeople earn salaries over $120,000. Neurodiagnostic technologists who hold professional credentials, college degrees, and who manage labs or own their own business command the highest salaries.

Where Can I Obtain Further Information?

A list of schools offering programs in Neurodiagnostics and polysomnography is available under the Education tab of the ASET website (www.aset.org). For general questions about the profession or services provided by ASET - The Neurodiagnostic Society, visit our website at www.aset.org or e-mail info@aset.org.

ASET - The Neurodiagnostic Society was founded in 1959 and represents technologists, students, physicians and other professionals who work in the clinical practice, research, and/or education of neurodiagnostic technology.

The Society is dedicated to the advancement of quality patient care by promoting the highest clinical standards and practices, along with advocating for the education, training and professional development of its members.

For more information contact ASET at: 402 East Bannister Road, Suite A Kansas City, MO 64131 816.931.1120 phone 816.931.1145 fax info@aset.org www.aset.org

What Kinds of Procedures Do Neurodiagnostic Technologists Perform?

The most common neurodiagnostic procedures are the electroencephalogram, long-term monitoring, intraoperative neurophysiological monitoring, the polysomnogram, evoked potential studies, and nerve conduction studies.

Electroencephalogram [EEG] – Reveals different brain patterns

The Electroencephalogram [EEG] is a recording of the on-going electrical activity of the brain. An EEG is used to assist in the diagnosis of epilepsy and a variety of neurological symptoms. EEGs also are used to evaluate the effects of head trauma or the consequences of severe infectious disease. EEG information can help doctors determine medical and surgical treatment of epilepsy. Patients having surgery on arteries in the neck or around the heart often have EEG monitoring performed during the procedure, providing the surgeon with additional information about brain function and assuring surgeons that the brain receives enough oxygen. In conducting an EEG, highly sensitive monitoring equipment records the activity through electrodes that are placed at measured intervals on a patient's scalp. The test is not painful. The test itself usually takes about 90 minutes and the principal role of the patient is simply to remain still, relaxed and comfortable.

The simultaneous recording of EEG and videotaped behavior over extended periods of time is referred to as **long-term monitoring (LTM)**. It is useful in diagnosing patients with intermittent or infrequent disturbances as well as in the diagnosis of seizures and other neurological disorders, such as unexplained coma.

Intraoperative Neurophysiologic Monitoring [IONM]– Monitors nervous system during surgery

Intraoperative Neurophysiologic Monitoring [IONM] is the use of neurodiagnostic monitoring techniques during surgery to provide information to the surgeon about nervous system integrity. The use of IONM guards against neurological complications during surgery and helps reduce the risk of negative surgical outcomes such as paralysis or stroke. IONM is used to monitor neurosurgical procedures and orthopedic procedures, including spinal surgery for scoliosis, tumors, and aneurysms; vascular surgeries; acoustic neuroma surgery; and carotid endarterectomy. Otolaryngologists use intraoperative neurophysiological monitoring to monitor cranial nerve function during ear, nose, and throat (ENT) surgeries.

Polysomnograms [PSG] – Recording during sleep

The Polysomnogram [PSG] is a recording during sleep that uses EEG and other physiologic monitors to evaluate sleep and sleep disorders, such as loud snoring, difficulty staying awake during the day, falling asleep at inappropriate times, insomnia, and uncontrollable urge to move one's legs. Physicians use polysomnograms to identify dysfunction in sleep/wake cycles, to diagnose breathing disorders during sleep, and to evaluate treatment of these disorders.

Evoked Potentials [EP] – Record electrical activity in response to stimulation

Evoked Potentials [EP] are recordings of electrical activity from the brain, spinal nerves, or sensory receptors in response to specific external stimulation. Evoked potentials are helpful in evaluating a number of different neurological problems, including spinal cord injuries, hearing loss, blurred vision and blind spots, acoustic neuroma, and optic neuritis. This test is commonly performed by the technologist during surgery on the spine to help the surgeon make sure nerves are not damaged during the operation.

Evoked potentials also are performed in a clinical neurodiagnostic laboratory, using either earphones to stimulate the hearing pathway, a checkerboard pattern on a television screen to stimulate the visual pathway, or a small electrical current to stimulate a nerve in the arm or leg.

Nerve Conduction Studies [NCS] – Record stimulated nerve response time

Nerve Conduction Studies [NCS] evaluate electrical potentials from peripheral nerves. Technologists stimulate the nerve with an electrical current and then record how long it takes the nerve impulse to reach the muscle. Patients referred for NCS tests suffer from nerve conditions which produce numbness, tingling, muscle pain, muscle weakness, muscle

cramping, abnormal movements, pain or loss of sensation, or neurological diseases affecting primarily the feet, legs, hands, arms, back, and neck.

What Basic Qualifications Do Neurodiagnostic Students Need?

They must have actively inquiring minds, above average intelligence, and a willingness to engage in life-long learning. They must have tact, patience, and compassion. Manual dexterity and a capacity to deal with visual, electrical, and computer concepts are important.

What Type of Education/Training is Required?

Persons interested in pursuing a career in Neurodiagnostics are strongly encouraged to attend a school specializing in the field. Currently, most of the schools are associated with two-year colleges; some schools offer distance-learning programs. Bachelor degree programs for the neurodiagnostic profession are also available.

According to ASET - The Neurodiagnostic Society's minimum educational requirements for performing neurodiagnostic procedures, an individual entering the neurodiagnostic profession must have earned an Associate degree or higher and have successfully completed a program reviewed by the Committee on Accreditation for Education in Neurodiagnostic Technology (CoA-NDT) and accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Within two years of graduation, individuals are strongly encouraged to take and pass a recognized, national examination for professional credentials in an area of neurodiagnostic specialty. Both neurodiagnostic education and clinical experience are necessary to attain sufficient knowledge base and clinical expertise.

Do Neurodiagnostic Technologists Need Credentials?

Occupational regulation is a necessity in many allied health fields to protect the health, safety and welfare of patients. Regulation gives clearly defined scopes of practice for each occupation and defines who is qualified to be a professional in each field. The public benefits as a result of the professionals being able to concentrate on clearly established guidelines and requirements within their scope of practice.

The competency standard for Neurodiagnostics is successful completion of national board examinations for professional credentials. Professional credentials are available in EEG, evoked potentials, intraoperative neurophysiologic monitoring, polysomnography, nerve conduction studies, and long-term monitoring and more. The certificates and registrations for the neurodiagnostic profession are voluntary. To assure the public that each neurodiagnostic procedure performed is conducted by only qualified personnel, it is necessary to have in place a regulation that is enforce-able by law. ASET believes that occupational regulation in the form of state licensure is the most effective means to establish legal authority for the scope of practice for neurodiagnostic professionals. Some states currently require technologists to be licensed in order to conduct polysomnograms. It is anticipated that similar licensure requirements for conducting EEGs and other neurodiagnostic tests will be enacted in states as well.