



## **TECHNOLOGIST PERFORMANCE OF NERVE CONDUCTION STUDIES AND SOMATOSENSORY EVOKED POTENTIALS UNDER DIRECT EDX PHYSICIAN SUPERVISION**

The electrodiagnostic medicine (EDX) examination is an extension of the neurologic portion of the physical examination and requires detailed knowledge of the patient and his or her disease. Nerve conduction studies (NCS) and somatosensory evoked potentials (SEP) are types of EDX testing. Unlike many laboratory tests, EDX testing is not conducted in a standardized fashion, but must be specifically designed for each individual patient. In addition, it is often necessary to modify or add to the procedure during the examination depending on the findings as they unfold. Only in this way can appropriate data be collected and the proper conclusions drawn.

Collection of the clinical and electrophysiologic data should be entirely under the supervision of the EDX physician. The physician may collect all of the data directly from the patient or may delegate collection of some data to a specifically trained technologist. Data collection may also be delegated to a physician in a residency training program related to neurology or physical medicine and rehabilitation or fellowship related to electrodiagnostic and/or neuromuscular medicine. In the case of NCSs and SEP testing, the EDX physician may be absent from the room when the procedure is performed but should be immediately available. Once the physician has determined the preliminary differential diagnosis on the basis of the patient's history and examination, a technologist may perform the NCS and/or SEP tests selected by the physician. The physician should be alerted immediately during the testing if any results appear to be unusual or unexpected, so that there is opportunity to reassess the differential diagnosis and develop alternative testing strategies. Experienced EDX physicians will on occasion determine that only a NCS is required, but this is a minority of studies performed. For instance, some entrapment disorders can be diagnosed in this fashion by a trained EDX physician, but this is an exception. To accurately diagnose many neuromuscular disorders, both NCSs and EMGs are necessary in the vast majority of cases. The patient should remain in the room until the

supervising EDX physician has reviewed NCS and diagnostic SEP results. SEPs are also frequently performed for preoperative baselines or prognosis after nerve trauma; those results can be reviewed by the physician at a later time.

Medicare defines appropriate supervision levels for diagnostic tests rendered by nonphysicians. General supervision means "the procedure is furnished under the physician's overall direction and control, but the physician's presence is not required during the performance of the procedure. Under general supervision, the training of the nonphysician personnel who actually performs the diagnostic procedure and the maintenance of the necessary equipment and supplies are the continuing responsibility of the physician." Direct supervision in the office setting means "the physician must be present in the office suite and immediately available to furnish assistance and direction throughout the performance of the procedure. It does not mean that the physician must be present in the room when the procedure is performed" unless otherwise required by state law.

Medicare regulations mandate that a physician must provide a minimum of general supervision over certified technologists throughout the performance of NCS and/or SEP testing. A physician must provide a minimum of direct supervision over uncertified technologists throughout the performance of NCS and/or SEP testing. While Medicare allows for general supervision in some situations, it is the position of the AANEM that direct supervision, as defined by Medicare, is recommended for all NCS and/or SEP testing.

For SEP testing performed intraoperatively for monitoring purposes, a physician may provide general or direct supervision as appropriate, or supervise a technologist who is continuously present in the operating room from a remote site with online, real-time contact.

It is the position of the AANEM that technologist should be certified by one of the following:

- (1) American Board of Electrodiagnostic Medicine; or
- (2) American Board of Registration of Electroencephalographic and Evoked Potential Technologists, Inc.; or
- (3) American Board of Neurophysiologic Monitoring.

Approved by the AANEM Board of Directors: June 2009

Modified and approved by the AANEM Board of Directors: November 2014, August 2020.