Logbook-*cum*-Portfolio

Elective Module : Electrophysiological testing of Nerve Conduction

Introduction :

The electrodiagnosis involves the recording and measurement of membrane potentials or electrical activities arising from CNS and peripheral nerves. Nerve conduction studies are related to study of generation and propagation of action potential or an impulse through peripheral nerves. The peripheral nerves are stimulated by application of electrical stimulus given through electrodes. The resulting electrical activity after stimulation of nerve is recorded. The records obtained depict the action potential and conduction of action potential through the nerves. The velocity/speed of an impulse conduction through the nerve is measured. Knowledge about generation of action potential and its speed of conduction helps to understand the electrophysiological basis of nerve damage and various neuropathies. Peripheral neuropathy can occur as a result from traumatic injuries, infections, metabolic problems, inherited causes and exposure to toxins. One of the most common causes of neuropathy is diabetes mellitus. Interpretation of records obtained by nerve conduction study helps to correlate the pathophysiological basis, clinical diagnosis and recovery of peripheral neuropathies and nerve damage.

Name of the Block	Block 1
Name of the Elective	Electrophysiological testing of Nerve Conduction
Location of hospital lab/research facility	Department of Physiology, College Campus, DMCH
Name of the Internal Preceptor	Dr. Hem Lata
Name of the External Preceptor	NA
Learning objectives of elective	In the end of elective posting, the Phase III Part II MBBS student should be able to :- • to enumerate the indications for testing of nerve conduction • to explain the physiological basis and the principle underlying the test • to explain the basic methodology and to perform the test under supervision and subsequently independently • to interpret the record obtained • to correlate its importance in clinical physiology
No. of students that can be accommodated in this elective	4
Prerequisites for elective	Understanding and knowledge of following topics : • Basic electrophysiology of nerve and muscle • Classification and difference in nerve conduction in different types of nerve fibers
Learning resources for students	• Clinical Neurophysiology by UK Mishra & JK Kalita • Text book of Practical Physiology by GK Pal • Guyton & Hall – Text book of Medical Physiology
List of activities of student participation	• Observe and perform the test under supervision and subsequently independently • Participate in the given assignments by the Preceptor related to given module
Portfolio entries required	Daily log of activities participated and recordings obtained.
Log book entry required	Completion of posting signed and verified by the preceptor with a ‘meet expectation’ as (M) grade
Assessment	• Attendance • Reflections writing • Presentation by the student • Verification of portfolio and log book entries