NDT A285: INTRODUCTION TO NERVE CONDUCTION VELOCITY

Item	Value
Top Code	121200 - Electro-Neurodiagnostic Technology
Units	1 Total Units
Hours	18 Total Hours (Lecture Hours 18)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S)

Course Description

An introduction to nerve conduction velocity (NCV) testing procedures and recording techniques. PREREQUISITE: NDT A190. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Describe and differentiate among the Compound Motor Action Potential (CMAP), Sensory Nerve Potentials, H-Reflex, F-Waves and correlate the patterns with clinical disorders.

Course Objectives

- 1. Identify a technique for recording the Compound Motor Action Potential (CMAP).
- 2. Describe the most common change found in the NCV in an Axonal Neuropathy and in a Demyelinating Neuropathy.
- 3. Name specific types or causes of Mononeuropathy and Polyneuropathy.
- 4. Describe the Compound Muscle Action Potential and the Sensory Nerve Potential by their descriptors: a. latency b. amplitude c. morphology
- 5. Describe the difference among motor and sensory nerve action potentials.
- 6. Calculate the Nerve Conduction Velocity using the formula V=D/T.
- 7. Compare the "H - Reflex" to the "F" - response, noting both their similarities and differences.
- 8. Describe the clinical syndrome and symptoms of Carpal Tunnel Syndrome.
- 9. Demonstrate the principles of stimulation and accurate placement of recording electrodes.

Lecture Content

Introduction to Nerve Conduction Velocity (NCV) Motor and sensory nerve action potentials Nerve conduction instrumentation Technique for recording the Compound Motor Action Potential (CMAP) NCV techniques and waveforms The Compound Muscle Action Potential and the Sensory Nerve Potential Nerve Conduction Velocity The "H - Reflex" and the "F" - response Anatomy, physiology, and pathology of the peripheral nervous system The clinical syndrome and symptoms of Carpal Tunnel Syndrome Mononeuropathy and Polyneuropathy NCV in an Axonal Neuropathy and in a Demyelinating Neuropathy Field trip to hospital lab: demonstration and lab practice Demonstration and practice performing motor and sensory NCV of the median, ulnar and radial nerves in the arms Demonstration and practice performing motor and sensory NCV of the peroneal, tibial, and sural nerves in the legs

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)

Instructional Techniques

Lecture, demonstrations, videos

Reading Assignments

Students complete 1-2 hours/week of textbook reading.

Writing Assignments

Students will be writing brief descriptions and short answers on examinations. Part of the lab which is completed during the lab hours consists of 1-2 hours/week.

Out-of-class Assignments

Lab analysis 1 hour/week.

Demonstration of Critical Thinking

Class participation; class assignments

Required Writing, Problem Solving, Skills Demonstration

Students will be writing brief descriptions and short answers on examinations.

Eligible Disciplines

Diagnostic medical technology-diagnostic medical sonography, neurodiagnosti...: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Yamada, T. and Meng, E.. Practical Guide for Clinical Neurophysiologic Testing - EP, LTM, IOM, PSG, and NCS, latest ed. Philadelphia, PA: Lippincott Williams Wilkins, 2017

Other Resources

1. Instructor handouts/course material