NDT A200: NEURODIAGNOSTIC LAB PRACTICE

Item	Value
Curriculum Committee Approval Date	02/09/2022
Top Code	121200 - Electro-Neurodiagnostic Technology
Units	1 Total Units
Hours	54 Total Hours (Lab Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	Yes; Repeat Limit 2
Grading Policy	Standard Letter (S)

Course Description

Laboratory course for the NDT student to apply foundational technical skills to successfully record routine EEG procedures according to published ACNS guidelines in preparation for first clinical experience. PREREQUISITE: NDT A110. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Perform a routine EEG recording using the ACNS minimal guidelines.

Course Objectives

- 1. Use the International 10/20 system to measure and apply the 23 standard EEG electrodes on a human volunteer accurately, (to within 5 mm) under 10 kOhms impedance, and within 45 minutes.
- 2. Identify basic EEG rhythms/waveforms and artifacts on recording.
- 3. Perform the standard EEG activations used in routine recordings.
- 4. Utilize the major instrument controls such as high and low filters, sensitivity, and calibration settings.
- 5. Set up all of the recommended montages used in a routine EEG.
- 6. Take an accurate and complete patient history.
- 7. Identify posterior dominant rhythm and normal variant waveforms accurately.
- 8. Apply electrodes using collodion in an acceptable manner so as to record EEG activity for 24-hour recordings for ambulatory or polysomnography studies.
- 9. Accurately calibrate NDT instrument and troubleshoot basic equipment malfunctions.
- 10. Practice electrical safety so as never to risk harm to the patient or self.

Lecture Content

This is a lab only course.

Lab Content

Review ACNS Guidelines Parameters Sensitivity versus Gain Filters Display/Paper Speed Polarity Convention Activations Intermittent Photic Stimulation Hyperventilation Sleep NDT Instrumentation Introduction Calibration requirements Auxillary inputs Sensitivity Controls Filter Controls Display Controls Activation Controls Measurement tools Review application Maintenance Troubleshooting Routine EEG exam Demonstration Patient History Electrode Placement 10/20 International System of Electrode Placement 10/10 International System of Electrode Placement Collodian application (PSG placement) Activations Exam Documentation Troubleshooting Artifact Identification Electrode Physical Chemical Ground Loop Artifact Elimination Techniques Montage modifications Electrode modifications Exam modification EEG Record Review States of Consciousness Wake Stage 1 Stage II Adult and Pediatric Wake rhythms Posterior Dominant Rhythm Normal Wake Variants Sleep architecture Normal Sleep Variants by Stage Abnormal Waves Epileptiform activity Slowing Asymmetry Seizure Professional Etiquette Entering Patient Area Patient Identification Communicating with the patient Taking patient history Explaining exa m to a patient Techniques: Eliciting patient cooperation

Method(s) of Instruction

- Lab (04)
- DE Live Online Lab (04S)

Instructional Techniques

Demonstration, return skill demonstration, powerpoint presentation. Performance feedback by the instructor. Each student will be provided opportunity to be the patient and the tech for each procedure performed in the classroom laboratory.

Reading Assignments

Review NDT 110 notes and readings. (1 hr/wk)

Writing Assignments

Lab assignments with patient history, and written technical impressions.

Out-of-class Assignments

Electrode Application practice (1-2 hrs/wk)

Demonstration of Critical Thinking

Written technical impressions, equipment troubleshooting, electrode application modifications, montage modifications, final exam.

Required Writing, Problem Solving, Skills Demonstration

Lab assignments corresponding to lab sessions. Electrode application accuracy, technical impression accuracy, completion of routine EEG study with activations and accurate documentation.

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.

Periodicals Resources

1. Sinha, Saurabh R.*; Sullivan, Lucy†; Sabau, Dragos‡; San-Juan, Daniel§; Dombrowski, Keith E..; Halford, Jonathan J.¶; Hani, Abeer J.#; Drislane, Frank W.**; Stecker, Mark M.††. American Clinical Neurophysiology Society Guideline 1: Minimum Technical Requirements for Performing Clinical Electroencephalography, Journal of Clinical Neurophysiology Volume 33 2016 2. Halford, J., Sabau, D., Drislane, F., Tsuchida, T. and Sinha, S.. American Clinical Neurophysiology Society

Guideline 4:Recording Clinical EEG on Digital Media, Journal of Clinical Neurophysiology Volume 33 2016