NDT A280: NEUROLOGIC DISORDERS

Item	Value
Top Code	121200 - Electro-Neurodiagnostic Technology
Units	3 Total Units
Hours	54 Total Hours (Lecture 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	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)

Course Description

Clinical and electroneurodiagnostic correlations to various physical conditions and disease states which are commonly dealt with in neurodiagnostic technology. Relationship of technologists to various medical specialties: neurology, neurosurgery, pathology, radiology, internal medicine, and psychiatry. PREREQUISITE: NDT A115 and NDT A190. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Recognize the clinical signs and electroencephalographic correlations with vascular disorders, space occupying lesions, infective disorders, toxic, metabolic, and degenerative disorders and major psychiatric disorders of the brain.

Course Objectives

- 1. Explain and contrast the neuronal basis of normal and abnormal electroencephalographic waveforms.
- 2. Describe, compare, and contrast the terms Epilepsy and Seizure
- 3. Classify (based on the International System) a seizure based on information obtained from a patient history.
- 4. Correlate the psychological and social factors encountered by an epileptic person.
- 5. Explain and answer questions about the etiology, clinical manifestations, medications of choice, electroencephalographic patterns, and prognosis of the major seizure disorders and epileptic syndromes.
- 6. Administer first aid to a patient having a seizure.
- 7. Differentiate coma and related levels of consciousness, as well as the clinical correlations which may cause those conditions.
- 8. Recognize the electroencephalographic correlations with decreased levels of consciousness.
- 9. Recognize the clinical signs and electroencephalographic correlations with the major psychiatric disorders first evident in infancy, childhood, adolescence, and adults.
- 10. Recognize the clinical signs and electroencephalographic correlations with the major drugs and treatments of psychiatric disorders.
- 11. Recognize the clinical signs and electroencephalographic correlations with vascular disorders of the brain including CVA and TIA.
- 12. Recognize the clinical signs and electroencephalographic correlations with space occupying lesions of the brain including tumors, AVM, abscesses.
- 13. Recognize the clinical signs and electroencephalographic correlations with infective disorders of the brain including bacterial, viral, parasitic, fungal, and delayed onset syndromes.
- 14. Recognize the clinical signs and electroencephalographic correlations with toxic, metabolic, and degenerative disorders which effect the brain.
- 15. Define and explain the major diagnostic procedures used for the central nervous system and how they relate to the results obtained from electroneurodiagnostic testing.
- 16. Recognize the clinical signs and electroencephalographic correlations with common neonatal abnormalities including, hyaline membrane disease, hypoxia, fetal cardiac anomalies, infective disorders, thermoregulative dysfunctions, hyperbilirubinemia, intraventricular hemorrhage, and seizure activity.
- 17. Recognize the clinical signs and electroencephalographic correlations with head ache, including vascular, (i.e. migraine and cluster) tension, and inflammatory.

Lecture Content

Introduction, Review Spring Final Exams Clinical Psychology review Neurological Exam Cerebrovascular Disorders Trauma and Coma Epileptic Disorders Lecture Epilepsy Reports Due: Oral Presentations Degenerative Disorders Infective Disorders Toxic and Metabolic Disorders Pathology Brain Cutting Field Trip Neurological Testing Reports and Presentations Due Review of Neonatal Abnormalities Neurological Disorders Reports and Presentations Due Tumors and Headache Neurophysiology of Electroencephalography Professional Organizations, Resume and Letter Writing Final Exam

Method(s) of Instruction

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

Instructional Techniques

The first portion of this course will present various clinical disorders about or related to the field of neurology. There will be several major topic areas covered by Physician Lectures to include: Infectious Disorders, Trauma and Coma, Cerebrovascular Disorders, Toxic and Metabolic Encephalopathy, The Neurological Exam, Pediatric Neurology, Epilepsy, and Degenerative Disorders. Other topics to be covered in the classroom will include Psychology, Tumors, Headache, and Electrophysiology. Reading from the text and review of physician lectures will adjunct the preceding topics. The second portion of the course will explore the relationship of neurodiagnostic technology to various other medical specialties such as Neurology, Neurosurgery, Pathology, Radiology, Psychiatry, Internal Medicine, and the various diagnostic procedures within these areas. In addition, topics such as Resume writing, purchasing supplies, professional societies and organizations, and registry board exams will be discussed.

Reading Assignments

.

Writing Assignments

The following reports are to be completed in writing and may be given orally in summarized fashion. The oral reporting will be evaluated on completeness and your ability to transmit technical information clearly and concisely. The written reports are expected to be typed and the grammar, spelling, and content will be considered. Your writing must prove that you understand the topic and are not merely turning in someone else's words. Reports will be graded on content 50%, oral summary 10%, writing quality 20%, references cited 10%, and ability to communicate relevant personal comments 10%. REPORT #1: Epilepsy and related topicsFind the following information about each topic area assigned. List all references used in research (minimum of three).1. International Classification Categories2. Etiologies3. Clinical Manifestations4. Treatments, including medications of choice.5. EEG data; ictally, interictally, and activations6. PrognosisREPORT #2: Neurological Testing Find the following information about each topic area assigned. List all references used in research.1. Indications for tests2. Typical results (normal/abnormal)3. Complete description of test4. Medical personnel administering and interpreting test5. Relationship to EEG if anyREPORT #3: Neurological DisordersChoose two (2) related or unrelated neurological disorders and submit your choices to the instructor for approval. A list of disorders will be available if needed. Find the following information about each disease you have chosen. List all references used in research.1. Etiologies2. Diagnostic Process3. Description of major symptoms4. Course and progression of diseases5. Prognosis6. EEG and/or EP findings

Out-of-class Assignments

.

Demonstration of Critical Thinking

Three reports will be assigned in the areas of Epilepsy, Diagnostic Testing, and Neurological Disorders (2). The reports will be presented orally and in type written form. Value: no more than 7% of total score each Attendance at the lectures in the Physician Series are mandatory. No provisions will be made for missed lectures. Multiple choice tests. Tests will not be comprehensive. Comprehensive Final Exam

Required Writing, Problem Solving, Skills Demonstration

The following reports are to be completed in writing and may be given orally in summarized fashion. The oral reporting will be evaluated on completeness and your ability to transmit technical information clearly and concisely. The written reports are expected to be typed and the grammar, spelling, and content will be considered. Your writing must prove that you understand the topic and are not merely turning in someone else's words. Reports will be graded on content 50%, oral summary 10%, writing quality 20%, references cited 10%, and ability to communicate relevant personal comments 10%. REPORT #1: Epilepsy and related topicsFind the following information about each topic area assigned. List all references used in research (minimum of three).1. International Classification Categories2. Etiologies3. Clinical Manifestations4. Treatments, including medications of choice.5. EEG data; ictally, interictally, and activations6. PrognosisREPORT #2: Neurological Testing Find the following information about each topic area assigned. List all references used in research.1. Indications for tests2. Typical results (normal/abnormal)3. Complete description of test4. Medical personnel administering and interpreting test5. Relationship to EEG if anyREPORT #3: Neurological DisordersChoose two (2) related or unrelated neurological disorders and submit your choices to the instructor for approval. A list of disorders will be available if needed. Find the following information about each disease you have chosen. List all references used in research.1. Etiologies2. Diagnostic Process3. Description of major symptoms4. Course and progression of diseases5. Prognosis6. EEG and/or EP findings

Textbooks Resources

1. Required Quigg, Mark. EEG Pearls, ed. Philadelphia: Elsevier, 2006 Rationale: -

Other Resources

1. ASET EEG Review Question Booklet 2. ABRET EEG Review Question Booklet