NDT A191: EEG RECORD REVIEW-NORMAL

Item	Value
Curriculum Committee Approval Date	11/15/2023
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

Practice in electroencephalograph (EEG) record review of normal adult and pediatric patients. Technical description of normal EEG patterns. COREQUISITE: NDT A115. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. List, identify and describe normal EEG patterns in the neonatal, infant, pediatric and adult age groups.

Course Objectives

- 1. Identify and describe the four basic EEG rhythms using Frequency (F), Morphology (M), Topography (T), and Reactivity (R).
- 2. Identify and describe the FMTR of normal EEG sleep rhythms in the pediatric and adult patient.
- 3. Identify and describe the FMTR of normal awake variants of the EEG in the pediatric and adult patient.
- 4. Identify and describe the FMTR of normal EEG variants of sleep in the pediatric and adult patient.
- 5. Identify and describe the EEG findings during non-REM and REM stages of sleep.
- 6. Identify and describe the FMTR of normal EEG patterns elicited by activations.
- 7. Identify and describe the FMTR of neonatal patterns including Trace Discontinu, Trace Alternant, Encouche Frontalis, Activite Moyenne, and Delta Brushes.

Lecture Content

EEG Description Characteristics of EEG Recordings Frequency Dominant frequency Non-dominant frequencies Other waveforms Amplitude Voltage Distribution/Topography Symmetry Synchrony Waveform Morphology Manner of occurrence (continuous or intermittent, random or rhythmic) Reactivity The EEG and State of Consciousness Basic EEG Waveforms Alpha Beta Theta Delta Normal Wake Variants Slow Alpha Variant Fast Alpha Variant Lambda Rhythm Mu Rhythm Posterior Slow Waves of Youth Shut Eye Waves Sleep Stage I Sleep Vertex waves Hypnagogic Hypersynchrony POSTS (Positive Occipital Sharp Transients of Sleep) RMTD (Rhythmic MidTemporal Theta Discharges) Wicket Spikes BETS Phantom spike and wave 14 6 Hz positive spikes Stage II Sleep Sleep spindles K-Complex Background Stage III Sleep Cone Waves Sail Waves Background REM Sleep Saw tooth Waves Background Rapid Eye Movements Activations HV Build-Up Photomyogenic Response Photic Driving Harmonic Subharmonic Neonatal EEG: Delta Brushes Encouche Frontalis Trace Discontinu Trace Alternant Activite Moyenne Other Waveforms FAR (Frontal Arousal Response) Temporal Slowing in Elderly Theta Rhythm of Ciganek SREDA

Method(s) of Instruction

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

Instructional Techniques

Lecture Lecture slide sets EEG recording review EEG software Case studies/scenarios Discussion/EEG analysis

Reading Assignments

Required text/instructor handout reading (2 hrs/wk). .

Writing Assignments

EEG Atlas portfolio Technical descriptions/impressions of EEG tracings

Out-of-class Assignments

EEG portfolio, short essay homework/discussion assignments, technical impressions (2-3 hrs/wk). .

Demonstration of Critical Thinking

Patient case scenarios EEG Tracing Review/Discussion Fill-in, short essay quizzes

Required Writing, Problem Solving, Skills Demonstration

EEG Atlas portfolio Written technical descriptions of EEGs

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 Quigg, Mark. EEG Pearls, 1st ed. Philadelphia: Mosby Elsevier, 2006 Rationale: This is the only edition of the text. Other texts with similar content cost $200-300+ and is unsustainable for student equity.
2. Required Marcuse, L.V., Fields, M. Yoo, J.Y.. Rowans Primer of EEG, 3rd ed. Philadelphia: Elsevier, 2024

Other Resources

1. Instructor handouts.