END-2915: POLYSOMNOGRAPHY DIRECTED PRACTICE I

Cuyahoga Community College

Viewing: END-2915 : Polysomnography Directed Practice I

Board of Trustees:
January 2023

Academic Term:
Fall 2023

Subject Code
END - Electroneurodiagnostic

Course Number:
2915

Title:
Polysomnography Directed Practice I

Catalog Description:
Directed practice in the clinical setting in a sleep laboratory or a sleep center. Departmental orientation, policies and procedures, individual body mechanics and patient transfer techniques. Gather and analyze patient information, perform testing preparation procedures, perform polysomnographic procedures. Emphasis on performing overnight diagnostic and therapeutic polysomnograms. (Two 7.5 hour days)

Credit Hour(s):
3

Lecture Hour(s):
0

Lab Hour(s):
0

Other Hour(s):
15

Other Hour Details:
15 hours per week Directed practice in a clinical setting

Requisites

Prerequisite and Corequisite
END-2510 Principles of Polysomnography, and END-2911 END Directed Practice II, and END-2451 Neonatal/Pediatric Electroencephalography; and concurrent enrollment in END-2520 Intermediate Polysomnography I.

Outcomes

Course Outcome(s):
Demonstrate work setting preparedness in clinical setting.

Essential Learning Outcome Mapping:
Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

a. Prepare outpatient lab prior to patient entry and between patients.
b. Demonstrate knowledge of location of supplies and linen in clinical setting.
c. Establish a routine of workspace setup in inpatient setting.
d. Demonstrate knowledge of clean vs. soiled areas.

Course Outcome(s):

Demonstrate effective patient interaction.

Objective(s):

Demonstrate strategies for accurate verification of patient identity.

Demonstrate professional introduction of self and the care team to the patient.

Demonstrate the ability to ask pertinent questions related to a patient's medical history.

Obtain a relevant neurological, pulmonary or cardiovascular patient history.

Demonstrate an assessment of a patient's level of consciousness and alertness.

a. Demonstrate an assessment of daytime sleepiness scale.
b. Establish professional rapport with patient and/or patient's family using clear speech and appropriate language.
c. Demonstrate the ability of explaining the concept of Polysomnography testing using terms, age and level of consciousness appropriate.
d. Demonstrate the ability of explaining all stimulation situations and sensors which apply to the test being performed.
e. Demonstrate appropriate and professional attention to a patient's needs.

Course Outcome(s):

Demonstrate knowledge of mechanics of PSG test acquisition.

Objective(s):

a. Measure the head using the international 10-20 system.
b. Prepare patient's skin for electrode placement.
c. Apply cephalic and non-cephalic electrodes and sensors securely
d. Verify that electrode impedances are balanced and below 5000 Ohms.
e. Perform biocals and lights out/on per lab protocol.
f. Recognize professional limitations and inform supervisors or physicians of such when assigned task that are not commensurate with knowledge or skills.
g. Apply previously achieved EEG/PSG principles in advanced clinical settings.
h. Consistently pass electrode verification sheets within tolerance limits
i. Recognize normal and normal variant awake and asleep patterns, abnormal awake and asleep patterns, sleep stages.
j. Recognize respiratory events, ECG patterns, and leg movements.
k. Demonstrate the ability to titrate therapeutic pressure setting on CPAP or BiPAP.
l. Identify and eliminate or reduce artifacts that contaminate waveforms.

Course Outcome(s):

Exhibit provision of a safe recording environment.

Objective(s):

a. Demonstrate use of standard precautions and other proper disinfection precautions for infection prevention.
b. Demonstrate proper cleaning and disinfection of electrodes after each procedure.
c. Demonstrate proper and safe removal of electrodes from patient's scalp.
d. Demonstrate proper and safe removal of sensors.
e. Demonstrate understanding of skin safety measures.
f. Demonstrate recognition and response to life-threatening situations.
g. Obtain and maintain certification for cardiopulmonary resuscitation.
h. Demonstrate compliance with hospital/lab protocols for emergency and disaster situations.
i. Demonstrate proper maintenance of instrumentation and equipment in good working order.
j. Demonstrate the practice of proper electrical safety and equipment/patient grounding.
k. Demonstrate proper body mechanics to safely transfer patient from chair to bed, and bed to chair.

Course Outcome(s):

Demonstrate high level of professionalism in a clinical setting.

Objective(s):

a. Demonstrate professionalism through punctuality.
b. Demonstrate the relaying of accurate information to other health care professionals.
c. Demonstrate compliance with HIPAA regulations with emphasis on maintenance of patient privacy.
d. Demonstrate effective interaction with physicians using effective communication skills.

Methods of Evaluation:

a. Clinical competencies to mirror the laboratory competencies for END 2520.
b. Clinical site final evaluation
c. Preceptor observations
d. Blackboard quizzes/ modules

Course Content Outline:

1. Clinical orientation activities:
    a. Departmental orientation
        i. Meet medical director
        ii. Meet technical director
        iii. Classroom and meeting areas
        iv. Department policy and procedures manuals
            a. Departmental reports
            b. Departmental inservices
            c. Procedural priorities
        v. Parking facilities
        vi. Equipment storage
        vii. Equipment handling
    b. Hospital orientation
        1. Knowledge of management of information
            a. Admissions
            b. Medical record
        2. Knowledge of environmental care standards
            a. Safety education/emergency procedures
            b. Infection control policies
                i. Hospital reporting structure
                ii. Usage of standard precautions (universal)
            c. Soiled linen/clothing
                i. Technologist responsibilities
                ii. Ordering of clean linens
                iii. Disposal of soiled linens
                iv. Environmental services responsibilities
            d. Use of disposable supplies
            e. Personal Protective Equipment
            f. Contact with bodily fluids
            g. Infectious waste policies
    c. Clinical orientation
        1. Safety
            a. Student responsibility
            b. Clinic's policies
            c. Patient's safety
            d. Fire procedures
            e. Emergency procedure plans
            f. Equipment safety, performance testing, and maintenance
            g. collodion and acdetone usage and storage
            h. Material safety data sheets (SDS)
            i. Oxygen precaution
        2. Medical emergencies

a. Definition
b. Safety of patient
c. Documentation
d. CPT training and certification
e. Seizure precautions and first aid
f. Psychiatric emergencies
i. Assessment of patient
ii. Notification of security/medical personnel
iii. Suicide precautions
iv. Documentation
g. Cardiac/arrhythmia procedures
h. Respiratory arrest/arrhythmia procedures
3. Patient charts
4. Charting procedure
5. Review student notebook
6. Procedures for calling in late or sick
7. Attendance
8. Lesson plans

2. Clinical proficiencies
i. Patient assessment
ii. Electrical theory
iii. Instrumentation
iv. Overnight polysomnogram

3. Clinical activities
i. Performing overnight polysomnograms
1. Explanation of procedure
2. Set up/placement of electrodes
3. Calibration
4. Lights out procedure
5. Documentation of hourly events
6. Recognition of patterns/artifacts
ii. Troubleshooting
1. Artifact
a. Physiological
b. Non-Physiological
2. Methods and concepts
a. Artifact rejection
b. Raw input
c. Electrodes
d. Equipment
i. Cables
iii. Patient protection, safety, and environmental issues
1. Hazardous items
a. Collodion
b. Acetone
c. Needles and sharps
2. Patient sedation
3. Patient management
4. Infection control
a. Bloodborne pathogens
b. Respiratory pathogens
5. Patient rights and confidentiality
6. Electrical safety
a. Grounding
b. Leak current
c. Connections
7. Cardiopulmonary resuscitation
8. Patient rights and confidentiality
iv. Pharmacologicial issues

v. Time organization
vi. Physician rounds
vii. Procedural priorities
viii. Patient transport
ix. Equipment processing

Resources

William H./ Spriggs. *Essentials of Polysomnography: A Training Guide & Reference for Sleep Technicians*. 3rd ed. Burlington: Jones & Barlett Learning, 2020.

C. Mattice, R. Brooks, & L-C Teofilo. *Fundamentals of Sleep Technology*. 3rd ed. Philadelphia: WoltersKluwer/Lippincott Williams & Wilkins, 2020.

American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep & Associated Events*. version 2.3. Darien: AASM,

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Resources Other

a. *American Journal of Electroneurodiagnostic Technology (AJET)* by the ASET; 4 issues annually; which reflects most recent changes and updates in the field.

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