PSG A250: POLYSOMNOGRAPHY RECORD REVIEW

Item	Value
Curriculum Committee Approval Date	03/20/2024
Top Code	121100 - Pharmacy Technician
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

Review of normal and abnormal polysomnographic recordings. Learn to recognize normal and abnormal sleep and breathing patterns and behaviors, artifacts, titration of CPAP, BiPAP, and oxygen. Scoring and calculation of polysomnographic recordings. PREREQUISITE: PSG A150. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Sleep ISR program will increase competency in scoring and interpretation of the polysomnogram with the Sleep Scoring Inter-Reliable program. Students will understand and follow the AASM Manual for the Scoring of Sleep and Associated Events, Rules Terminology and Technical Specifications, (both adult and pediatric guidelines).

Course Objectives

- 1. Recognize normal sleep EEG waveforms recorded at 10mm/sec according to Rechtschaffen and Kales scoring manual and understand how to apply these rules to abnormal tracings.
- 2. Define and identify normal and abnormal sleep EEG rhythms, breathing disorders of sleep, periodic movements of sleep and other sleep related physiologic waveforms.
- 3. Calculate and summarize various sleep indices such as sleep and REM latencies, respiratory disturbance indices (RDI), and PLMS and arousal indices.
- 4. Recognize and compensate for artifactual data on polysomnograms.
- 5. Understand and utilize the differences and similarities between automated (digital, computerized) and manual (analog) polysomnographs.
- 6. Prepare and interpret a report of a polysomnographic study, including sleep architecture, latencies, arousal indices, respiratory parameters, CPAP and BiPAP titration, Periodic Limb Movements during Sleep, and cardiac status.
- 7. Recognize normal sinus rhythm and common ECG abnormalities at 10mm/sec.
- 8. Interpret square wave calibration signals for accuracy of time-constant, sensitivity voltage, and be able to interpret biological calibrations for eye movement and oximetry.
- 9. identify and follow the scoring and interpretation guidance outlined in the AASM Manual for the Scoring of Sleep and Associated Events.

Lecture Content

Review of sleep staging; Rechtschaffen and Kales rules and exceptions Calculations involving scoring/staging of sleep parameters. Practice staging Review of respiratory abnormalities during sleep; Obstructive, central, mixed apnea; Hypopneas; Hypoventilation; Snoring; Periodic breathing Calculations of respiratory disturbance parameters; Cardiac arrhythmias Therapeutic options for respiratory disturbances during sleep; CPAP, BiPAP, oxygen titration Periodic Limb Movements during Sleep and arousals; Practice scoring and calculating arousal indices Nocturnal Penile Tumescence testing. Scoring NPT polysomnograms Multiple Sleep Latency Tests and Maintenance of Wakefulness Tests Review of NREM parasomnias and REM phenomena; Alpha-delta sleep, RBDs, seizures, etc. Review of artifacts; Artifact recognition and correction on polysomnograms 60HZ, EMG, ECG, EOG, Glossokinetic, Perspiration, Movement, Electrode... Review of neonatal tracings; Staging rules for neonatal polysomnograms Electrocardiography; Measurements, Normal/Abnormal rhythmBradycardia, AV-Block, Ventricular Tachycardia, PVC, Sinus Rhythm... Digital Recording; Sample Rate, Vertical/Horizontal Resolution, Automated Scoring Interpreting Calibration Signals; Square Wave, Grid Paper Measurements, Time Constant, Oximetry, Bio-cal...

Method(s) of Instruction

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

Instructional Techniques

Segments of the course will be presented in lecture format with PowerPoint presentations and examples. Students will use the Sleep ISR Scoring Course platform to gain competency in scoring and interpretation of the polysomnogram (PSG). The content for this program follows the scoring and interpretation guidance outlined in the AASM Manual for the Scoring of Sleep and Associated Events

Reading Assignments

Reading assignments of the AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications for the evaluation of polysomnography (PSG) and home sleep apnea tests (HSATs). Required Textbook reading (2 -3 hours/week)

Writing Assignments

1. Comparison of student scoring of portions of actual tests with professional scoring. 2. Prepared reports of Polysomnographic studies (technical format). Required supplemental reading including journal articles and online research. (1 - 2 hours/week).

Out-of-class Assignments

Students will complete series of 200 epoch sleep studies. They must earn at least a 90% score on 5 out of 10 studies. Required record scoring (2 - 3 hours/week)

Demonstration of Critical Thinking

Quizzes covering material from reading and lectures. Quizzes are not comprehensive and will cover material from previous segments. Prepared

scoring reports of PSG studies Complete series of 200 epoch sleep studies. They must earn at least a 90% score on 5 out of 10 studies

Required Writing, Problem Solving, Skills Demonstration

1. Comparison of student scoring of portions of actual tests with professional scoring. 2. Prepared reports of Polysomnographic studies (technical format).

Eligible Disciplines

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

Textbooks Resources

1. Required Teofilo L. Lee-Chiong Jr. MD, Cynthia Mattice MS RPSGT RST, et al.. Fundamentals of Sleep Technology, 3rd ed. American Association of Sleep Technologists endorsed, 2019 2. Required AASM. Manual for Scoring Sleep and Associated Events, ed. American Academy of Sleep Medicine, 2022