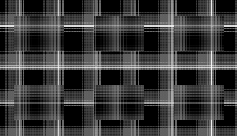
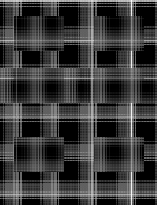
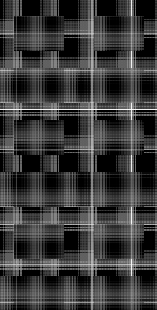
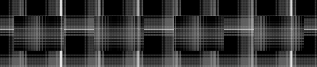
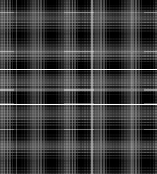
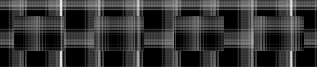
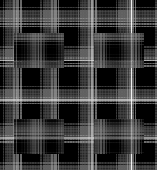
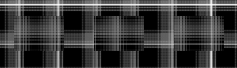
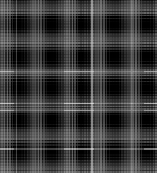
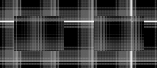
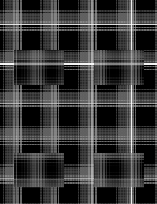
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| **Sleep Disorders Specialty Examination Detailed Content Outline**  *Multiple-choice items are linked to open cells.* | **Items** | | | |
| **Cognitive Level** | | | **Total** |
| **Recall** | **Application** | **Analysis** |
| **I. PRE-TESTING** | **6** | **11** | **4** | **21** |
| **A. Identification and Care of At-Risk Individuals** | **3** | **4** | **1** | **8** |
| 1. Recognize signs and symptoms associated with  sleep disorders as revealed by history, interview, or clinical assessment |  |  |  |  |
| 2. Identify special factors and co-morbid conditions affecting individuals with potential sleep disorders |  |  |  |  |
| 3. Identify the appropriate diagnostic modality based on patient factors and co-morbid conditions |  |  |  |  |
| a. polysomnography with or without PAP titration |  |  |  |  |
| b. maintenance of Wakefulness Test |  |  |  |  |
| c. multiple Sleep Latency Test |  |  |  |  |
| d. home sleep apnea testing |  |  |  |  |
| e. actigraphy |  |  |  |  |
| 4. Communicate with members of the health care team regarding findings and recommended |  |  |  |  |
| a. diagnostic studies |  |  |  |  |
| b. therapeutic intervention |  |  |  |  |
| **B. Study Preparations** | **3** | **7** | **3** | **13** |
| 1. Identify critical information from a patient’s medical record |  |  |  |  |
| 2. Select the appropriate study montage |  |  |  |  |
| 3. Set up equipment to achieve the desired data collection |  |  |  |  |
| 4. Set high and low filters, and sensitivity settings |  |  |  |  |
| 5. Evaluate equipment calibrations to ensure accuracy and linearity of amplified signals |  |  |  |  |
| 6. Confirm adequate audiovisual signals |  |  |  |  |
| 7. Recommend modifications to the physician’s order when necessary |  |  |  |  |
| 8. Assess a patient’s current clinical condition |  |  |  |  |
| 9. Explain testing procedures and potential interventions to a patient |  |  |  |  |
| 10. Determine a patient’s expectations about the study |  |  |  |  |
| 11. Recognize special needs associated with a patient’s psychological, physical, cultural, language, and  cognitive status |  |  |  |  |
| 12. Identify patient medications that may affect test results |  |  |  |  |
| 13. Document time and dose of medications taken prior to the study |  |  |  |  |
| 14. Obtain informed consent |  |  |  |  |





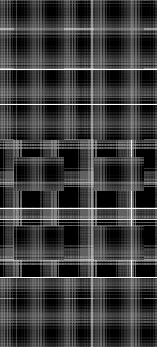
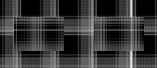
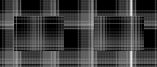
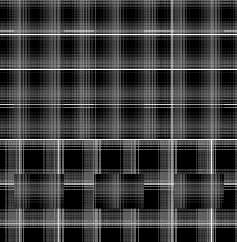
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| **Cognitive Level** | | | | | | | | | **Total** | | |
| **Recall** | | | **Application** | | | **Analysis** | | |
| 15. Apply electrodes and sensors at optimal locations to obtain data on airflow, snoring, body position, ECG, respiratory effort, EEG, leg movements, eye movements, chin EMG, and/or SpO2 |  | | |  | | |  | | |  | | |
| 16. Apply electrodes and sensors at optimal locations to  obtain data on exhaled CO2 |  | | |  | | |  | | |  | | |
| 17. Assess the quality of electrode impedances and physiologic calibration results |  | | |  | | |  | | |  | | |
| 18. Document the quality of monitoring signals |  | | |  | | |  | | |  | | |
| **II. SLEEP DISORDERS TESTING** | **16** | | | **16** | | | **18** | | | **50** | | |
| **A. Signal Maintenance During Testing** | **4** | | | **4** | | | **5** | | | **13** | | |
| 1. Recognize an inadequate signal from recording devices |  | | |  | | |  | | |  | | |
| 2. Correct inadequate signals as appropriate |  | | |  | | |  | | |  | | |
| 3. Recognize artifacts |  | | |  | | |  | | |  | | |
| 4. Correct artifacts as appropriate |  | | |  | | |  | | |  | | |
| 5. Document corrections to signals and artifacts |  | | |  | | |  | | |  | | |
| **B. Sleep-Related Disorders and Therapeutic Interventions** | **5** | | | **10** | | | **13** | | | **28** | | |
| 1. Recognize disorders during testing |  |  |  |  |  |  |  |  |  |  |  |  |
| a. sleep |  | | |  | | |  |  |  |  |  |  |
| b. cardiac |  | | |  | | |  |  |  |  |  |  |
| c. neurological |  | | |  | | |  |  |  |  |  |  |
| d. pulmonary |  | | |  | | |  |  |  |  |  |  |
| e. gastrointestinal |  | | |  | | |  |  |  |  |  |  |
| 2. Implement therapy during testing |  |  |  |  |  |  |  |  |  |  |  |  |
| a. CPAP, auto-PAP, bilevel PAP |  | | |  | | |  | | |  |  |  |
| b. other forms of noninvasive ventilation |  | | |  | | |  | | |  |  |  |
| c. supplemental oxygen |  | | |  | | |  | | |  |  |  |
| d. patient positioning |  | | |  | | |  | | |  |  |  |
| 3. Monitor a patient’s response to therapy during testing |  | | |  | | |  |  |  |  |  |  |
| 4. Optimize therapy during testing |  |  |  |  |  |  |  |  |  |  |  |  |
| a. PAP |  | | |  | | |  | | |  |  |  |
| b. oral appliance |  | | |  | | |  | | |  | | |
| 5. Coach a patient in cooperative behaviors while adjusting therapy |  | | |  | | |  | | |  | | |
| 6. Recommend modifications in therapy to the physician when no protocol applies |  | | |  | | |  | | |  | | |
| 7. Recognize medical emergencies (for example, seizures, stroke, life-threatening dysrhythmias,  respiratory distress) |  | | |  | | |  | | |  | | |
| 8. Implement interventions for a medical emergency |  | | |  | | |  | | |  |  |  |





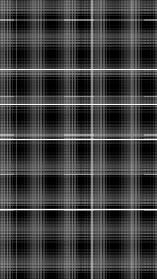
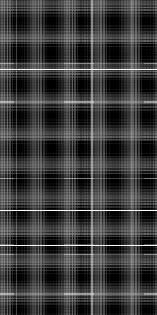
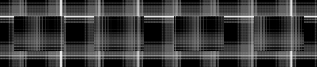
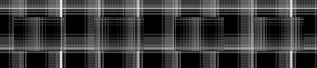
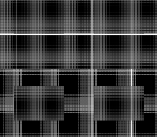
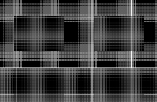
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| **Cognitive Level** | | | **Total** |
| **Recall** | **Application** | **Analysis** |
| 9. Intervene when the testing environment becomes unsafe (for example, combative patient or family  member, fire) |  |  |  |  |
| **C. Documentation During Testing** | **4** | **0** | **0** | **4** |
| 1. Record |  |  |  |  |
| a. lights out / on clock time |  |  |  |  |
| b. reason for prolonged awakenings |  |  |  |  |
| c. staff interventions |  |  |  |  |
| d. therapeutic interventions |  |  |  |  |
| 2. Document times associated with events (for example,  artifacts, ECG abnormalities, seizure activity, EEG abnormalities, parasomnias) |  |  |  |  |
| **D. Study Conclusion** | **3** | **2** | **0** | **5** |
| 1. Evaluate post-study calibrations |  |  |  |  |
| 2. Remove electrodes and sensors |  |  |  |  |
| 3. Process nondisposable equipment |  |  |  |  |
| 4. Review post-study questionnaire |  |  |  |  |
| 5. Describe the post-study process to a patient |  |  |  |  |
| 6. Summarize study observations for the interpreting physician and scoring personnel |  |  |  |  |
| **III. STUDY ANALYSIS** | **12** | **38** | **0** | **50** |
| **A. Record Review** | **1** | **1** | **0** | **2** |
| 1. Identify critical information from a patient’s medical record |  |  |  |  |
| 2. Review a summary of study observations |  |  |  |  |
| **B. Sleep Staging** | **2** | **6** | **0** | **8** |
| 1. Score sleep stages for adult patients |  |  |  |  |
| 2. Score sleep stages for pediatric patients |  |  |  |  |
| **C. Sleep Event Identification** | **2** | **8** | **0** | **10** |
| 1. Recognize events from in-lab sleep testing |  |  |  |  |
| a. sleep-disordered breathing |  |  |  |  |
| b. abnormal limb movements |  |  |  |  |
| c. abnormal cardiac rhythm |  |  |  |  |
| d. bruxism |  |  |  |  |
| e. abnormal EEG waveforms (for example, seizure, voltage changes) |  |  |  |  |
| f. parasomnias (for example, night terrors, REM behavior disorder) |  |  |  |  |
| g. arousals |  |  |  |  |
| 2. Recognize events from home sleep apnea testing |  |  |  |  |





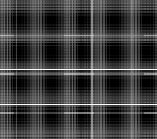
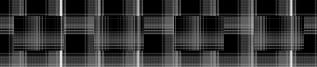
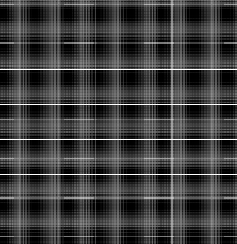
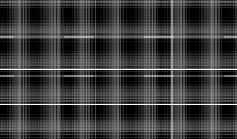
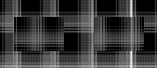
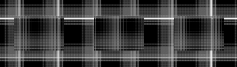
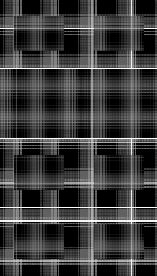
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| **Cognitive Level** | | | | | | | | | **Total** | | |
| **Recall** | | | **Application** | | | **Analysis** | | |
| **D. Sleep Event Reporting** | **7** | | | **23** | | | **0** | | | **30** | | |
| 1. Summarize findings from recording about a patient’s |  |  |  |  |  |  |  |  |  |  |  |  |
| a. behaviors during testing (for example, parasomnias, limb movements) |  | | |  | | |  | | |  | | |
| b. tolerance of therapeutic interventions |  | | |  | | |  |  |  |  |  |  |
| 2. Summarize evidence of |  | | |  | | |  | | |  | | |
| a. artifacts |  | | |  | | |  |  |  |  |  |  |
| b. adverse events |  | | |  | | |  |  |  |  |  |  |
| c. technical problems, errors, and actions taken to resolve them |  | | |  | | |  | | |  | | |
| 3. Verify the accuracy of descriptive statistics generated for |  | | |  | | |  | | |  | | |
| a. oxygen saturation |  | | |  | | |  |  |  |  |  |  |
| b. sleep latency |  | | |  | | |  |  |  |  |  |  |
| c. REM latency |  | | |  | | |  | | |  | | |
| d. sleep efficiency |  | | |  | | |  |  |  |  |  |  |
| e. total sleep time |  | | |  | | |  | | |  | | |
| f. total time in bed |  | | |  | | |  |  |  |  |  |  |
| g. total recording time |  | | |  | | |  | | |  | | |
| h. sleep stage percentages |  | | |  | | |  |  |  |  |  |  |
| i. wake after sleep onset |  | | |  | | |  |  |  |  |  |  |
| 4. Document descriptive statistics for MSLT and MWT (for example, mean sleep latency, REM periods) |  | | |  | | |  | | |  | | |
| 5. Document the frequency or verify accuracy of the following: |  | | |  | | |  | | |  | | |
| a. obstructive, central, and mixed apneas |  | | |  | | |  | | |  | | |
| b. obstructive and central hypopneas |  | | |  | | |  |  |  |  |  |  |
| c. arousals |  | | |  | | |  | | |  | | |
| d. periodic limb movements |  | | |  | | |  |  |  |  |  |  |
| e. snoring |  | | |  | | |  | | |  | | |
| f. Respiratory Effort Related Arousals (RERAs) |  | | |  | | |  |  |  |  |  |  |
| g. Cheyne-Stokes respirations |  | | |  | | |  |  |  |  |  |  |
| h. sleep-related hypoventilation |  | | |  | | |  |  |  |  |  |  |
| i. periodic breathing |  | | |  | | |  |  |  |  |  |  |
| 6. Verify the accuracy of indices for |  |  |  |  |  |  |  |  |  |  |  |  |
| a. apneas |  | | |  | | |  |  |  |  |  |  |
| b. hypopneas |  | | |  | | |  |  |  |  |  |  |
| c. RERAs |  | | |  | | |  |  |  |  |  |  |
| d. respiratory events from portable monitors |  | | |  | | |  |  |  |  |  |  |
| e. arousals |  | | |  | | |  |  |  |  |  |  |
| f. periodic limb movements |  | | |  | | |  |  |  |  |  |  |
| g. snoring |  | | |  | | |  |  |  |  |  |  |
| h. desaturations |  | | |  | | |  |  |  |  |  |  |





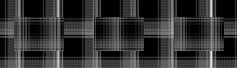
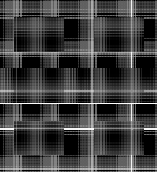
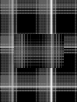
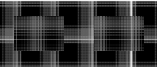
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| **Cognitive Level** | | | **Total** |
| **Recall** | **Application** | **Analysis** |
| 7. Document abnormalities in |  |  |  |  |
| a. EEG activity (for example, spindles, beta, alpha- delta, alpha-intrusion) |  |  |  |  |
| b. REM (for example, density, latency) |  |  |  |  |
| c. ECG activity |  |  |  |  |
| 8. Generate a written report including objective and subjective information |  |  |  |  |
| 9. Confirm the written report is a valid reflection of the study |  |  |  |  |
| **IV. ADMINISTRATIVE FUNCTIONS** | **7** | **3** | **0** | **10** |
| **A. Data and Equipment Maintenance** | **3** | **1** | **0** | **4** |
| 1. Ensure information from each patient is stored according to government and industry standards |  |  |  |  |
| 2. Correct problems with data acquisition and recording equipment |  |  |  |  |
| 3. Perform |  |  |  |  |
| a. biomedical equipment quality control |  |  |  |  |
| b. routine equipment processing |  |  |  |  |
| c. preventative maintenance |  |  |  |  |
| d. inventory maintenance |  |  |  |  |
| **B. Management** | **4** | **2** | **0** | **6** |
| 1. Implement policies and procedures that address |  |  |  |  |
| a. accurate data processing |  |  |  |  |
| b. patient and staff safety |  |  |  |  |
| c. infection control |  |  |  |  |
| d. response to an emergency |  |  |  |  |
| e. patient confidentiality |  |  |  |  |
| f. staff educational requirements |  |  |  |  |
| g. current practice standards |  |  |  |  |
| 2. Implement quality improvement programs that address |  |  |  |  |
| a. inter-scorer reliability |  |  |  |  |
| b. implementation of a physician’s order |  |  |  |  |
| c. compliance with protocols |  |  |  |  |
| d. patient and physician satisfaction |  |  |  |  |



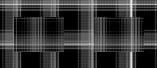


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| **Recall** | **Application** | **Analysis** |
| **V. TREATMENT PLAN** | **7** | **13** | **9** | **29** |
| **A. Development** | **1** | **4** | **4** | **9** |
| 1. Assess a patient’s or caregiver’s educational needs and barriers to optimal therapy |  |  |  |  |
| 2. Select equipment and interface to ensure maximum adherence and efficacy |  |  |  |  |
| 3. Communicate details of assessment to the health  care team |  |  |  |  |
| 4. Assist in the development of an individualized  treatment plan (for example, behavior modifications, co-morbid condition management) |  |  |  |  |
| **B. Implementation** | **3** | **5** | **1** | **9** |
| 1. Assist in the generation of the prescription |  |  |  |  |
| 2. Provide education to the patient or caregiver regarding the therapeutic plan |  |  |  |  |
| 3. Coordinate equipment setup |  |  |  |  |
| 4. Adjust equipment settings to comply with the prescription |  |  |  |  |
| 5. Document educational assessments, interventions, and a patient’s comprehension of treatment plan |  |  |  |  |
| **C. Evaluation** | **3** | **4** | **4** | **11** |
| 1. Review data downloaded from PAP equipment |  |  |  |  |
| 2. Evaluate adherence information |  |  |  |  |
| 3. Document treatment plan outcomes |  |  |  |  |
| 4. Recommend revisions to optimize the treatment plan |  |  |  |  |
| 5. Communicate treatment plan results to the physician / healthcare provider |  |  |  |  |
| **TOTAL** | **48** | **81** | **31** | **160** |





**Specifications by Patient Age**



|  |  |  |
| --- | --- | --- |
| **Patient** | **Min** | **Max** |
| Pediatric 6 years of age or younger | 2 | 4 |
| Pediatric 7 to 17 years of age | 2 | 4 |
| General | balance | |
| **Total** | **160** | |

|  |
| --- |
| **Sleep Disorders Specialist Admission Requirements** |
| 1. Be a Certified Respiratory Therapist (CRT) or Registered Respiratory Therapist (RRT) having completed a CoARC or CAAHEP accredited respiratory therapist education program including a sleep add-on track   OR   1. Be a Certified Respiratory Therapist (CRT) for at least 6 months prior to applying for the Sleep Disorders Specialty Examination.   OR   1. Be a Registered Respiratory Therapist (RRT) for at least 3 months prior to applying for the Sleep Disorders Specialty Examination. |

|  |  |
| --- | --- |
| **Sleep Disorders Specialist Examination Fees** | |
| **New Applicant** | **Repeat Applicant** |
| $300 | $250 |