

CRE Content Outline

DOMAIN 1. GATHER AND ANALYZE PATIENT INFORMATION

TASK 1.01 Review medical information and sleep study orders to determine completeness of required documentation and become familiar with potential study requirements/parameters.

The technologist will review and understand information including but is not limited to the following:

- ❑ *Orders and protocols for scheduled sleep study*
- ❑ *Chief sleep/wake complaint under investigation*
- ❑ *Infection control issues or other special precautions*
- ❑ *Current and/or recently discontinued medications*
- ❑ *Medical history and physical examination data*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 01 Medical record (e.g., sleep study orders, consent forms, medical charts, etc.)
- 02 Basic physiology
- 03 Basic anatomy
- 04 Sleep disorders (signs and symptoms)
- 05 Pathophysiology (especially as it relates to or impacts sleep studies; e.g. breathing disorders, cataplexy, parasomnia activity, seizures, cardiac dysrhythmias, etc.)
- 06 Sleep disorders nosology
- 07 Medication effects (especially as they relate to or impact sleep studies and patients' needs)
- 08 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)

TASK 1.02 Collect data from the patient by observation and interview to verify background information and identify patient-specific needs during testing (such as physical/mental limitations, current emotional/psychological status, pertinent medical/social history, spouse/family member, etc.)

Including but not limited to the following, the technologist will:

- ❑ *Document that all orders are present/complete*
- ❑ *Interview the patient to determine:*
 - *Current medications (prescription, non-prescription, recreational)*
 - *Recent changes in medical condition and/or medication regimen*
 - *Recent and habitual caffeine or alcohol ingestion*
 - *Current sleep pattern*
 - *Need for treatment intervention during testing*
 - *Current emotional/psychological status*
 - *Presence of any physical/emotional/cognitive limitations*
 - *Level of consciousness/orientation to time, place and person*
 - *Ability to cooperate*
 - *Presence of prosthetic and/or electromechanical assist devices*

- *Recognize the special needs of patients with:*
 - *Limited mobility*
 - *Emotional or cognitive impairment*
 - *Physical or medical conditions requiring special care*
 - *Age specific needs*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 01 Medical records (e.g., sleep study orders, consent forms, medical charts, etc.)
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- 05 Pathophysiology (especially as it related to or impacts sleep studies; e.g. breathing disorders, cataplexy, parasomnia activity, seizures, cardiac dysrhythmias, etc.)
- 06 Sleep disorders nosology
- 07 Medication effects (especially as they relate to or impact sleep studies and patients' needs)
- 09 Observation skills
- 10 Impact of patient's physical/mental limitations on the conduct of sleep studies
- 11 Interviewing skills and techniques
- 12 Procedures for obtaining vital signs
- 13 Impact of lifestyles on sleep study requirements
- 14 Communication skills

TASK 1.03 Analyze and integrate collected information in order to perform an appropriate sleep study, meet patient's special requirements, and determine final testing procedures.

This task includes but is not limited to:

- *Verifying parameters to be monitored*
- *Implementing precaution procedures during testing*
- *Recognizing factors that may affect the outcome of the study*
- *Identifying necessary ancillary equipment required for testing*
- *Recognizing special needs of the patient during testing*
- *Identifying signs, symptoms and/or findings of sleep/wake disorders recognized by the nosology*
- *Anticipating the likelihood and consequences of the following occurring during testing:*
 - *Hypnagogic hallucinations, cataplexy, sleep paralysis, sleep attacks*
 - *Unusual vocalizations/motor activity, or violent behavior*
 - *Enuresis*
 - *Awakening with pain, disorientation and/or emotional upset*
 - *Difficulty falling asleep*
 - *Seizure and/or seizure related activity*
 - *Abnormal breathing events or patterns relative to sleep stage and body position*
 - *Cardiac dysrhythmias*
 - *Potential for CO₂ narcosis*
- *Communication with the referring physician or center/lab director to verify:*
 - *Unclear or inappropriate orders*
 - *Changes in patient's status*
- *Communicating with the ordering physician or center/lab director regarding:*
 - *Unclear or inappropriate orders*
 - *Changes in patient's status*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 02 Basic physiology
- 03 Basic anatomy
- 04 Sleep disorders (signs and symptoms)
- 05 Pathophysiology (especially as it related to or impacts sleep studies; e.g., breathing disorders, cataplexy, parasomnia activity, seizures, cardiacdysrhythmias, etc.)
- 06 Sleep disorders nosology
- 07 Medication effects (especially as they relate to or impact sleep studies and patients' needs)
- 10 Impact of patient's physical/mental limitations on the conduct of sleep studies
- 13 Impact of lifestyles on sleep study requirements
- 14 Communication skills
- 15 Problem-solving skills
- 16 Clinical reasoning
- 17 Collaborate with health care professionals
- 18 Polysomnographic equipment and related peripherals, their uses and limitations

DOMAIN 2. PERFORM TESTING PREPARATION PROCEDURES

TASK 2.01 Explain pre-testing, testing and post-testing procedures to the patient.

This task includes but is not limited to:

- *Explain all polysomnographic procedures in terms appropriate for the patient's age and mental or cognitive status*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 05 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 10 Impact of patient's physical/mental limitations on the conduct of sleep studies
- 14 Communication skills
- 19 Individual learning styles (including the impact of age, mental status, language, etc.)
- 20 Patient-appropriate instruction techniques (e.g., culture-, age-, education-level-appropriate instruction)
- 21 Therapeutic modalities/techniques

TASK 2.02 Prepare and calibrate equipment required for testing to determine proper functioning.

Preparation and calibration procedures include but are not limited to:

- *Prepare electrodes and other equipment for patient application*
- *Calibrate recording equipment*
- *Obtain materials to generate a recording*
- *Label recordings with patient demographic information, study information, study location and technologist identification*
- *Label electrode and signal inputs correctly for each recording channel*
- *Verify and adjust amplifier settings*
- *Select appropriate montages based on patient history and study orders*
- *Verify signal deflection and amplitude based on calibration voltage and sensitivity*
- *Interface ancillary equipment to data recording devices*
- *Check audiovisual equipment*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 02 Basic physiology
- 08 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 15 Problem-solving skills
- 22 Basic biopotential electrophysiology (e.g. EEG, EMG, ECG)
- 23 Equipment-specific operating and calibration procedures
- 24 Electrical safety
- 25 Infection control procedures (e.g., sterilization, airborne diseases, etc.)

TASK 2.03 Apply electrodes and sensors to monitor appropriate sleep parameters.

This includes but is not limited to the following:

- *Measure and mark the appropriate EEG electrode placements using the International 10-20 System*
- *Identify appropriate electrode placements for:*
 - *Ground*
 - *EKG*
 - *Chin EMG*
 - *Intercostal EMG*
 - *Anterior-tibialis EMG*
 - *Other EMG*
 - *Thoracic/abdominal cardiopneumograph*
 - *EOG*
- *Securely attach all electrodes*
 - *Clean and prepare all necessary electrode sites*
 - *Install electroconductive material where applicable*
 - *Verify appropriate impedance level for each electrode*
 - *Reposition, reapply, or replace electroconductive material as necessary*
- *Appropriately place, securely attach to the patient, check proper function and assure an appropriate signal for sensors which detect:*
 - *Airflow (e.g., thermistor, thermocouple, capnograph)*
 - *Respiratory effort (e.g., strain gauges, inductive plethysmograph belt, esophageal balloon)*
 - *Oximeter probe, transcutaneous O₂/CO₂ electrodes*
- *Measure electrode impedance and verify signal quality on all channels*
- *Reposition or replace electrodes and other equipment, as necessary*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 01 Basic anatomy
- 09 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 12 Procedures for obtaining vital signs
- 14 Communication skills
- 25 Infection control procedures (e.g., sterilization, airborne diseases, etc.)
- 26 International 10-20 electrode placement system
- 27 Appropriate electrode/sensor application/removal techniques
- 28 Patient-specific application requirements (e.g., skull defects, skin disorders)

TASK 2.04 Observe calibration tracings to verify signals are artifact-free and make any necessary adjustments.

This includes but is not limited to the following:

- ❑ *Input calibration signal to all AC amplifiers*
- ❑ *Verify calibration voltage(s)*
- ❑ *Verify signal deflection for appropriate input voltage*
- ❑ *Correct inappropriate output when indicated*
- ❑ *Verify baseline and all calibration points on DC channels for input signal from ancillary equipment*
- ❑ *Adjust digital recording parameters to optimize signal reproduction*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 15 Problem-solving skills
- 23 Equipment-specific operating and calibration procedures
- 29 Expected waveforms for each parameter (e.g., EKG, EOG, EMG, EEG, etc.)
- 30 Potential artifacts, their sources and appropriate corrective actions

TASK 2.05 Perform appropriate physiologic calibrations to ensure proper signals.

The task includes but is not limited to:

- ❑ *Performance of physiologic calibrations for all appropriate signals*
- ❑ *Verification of signal quality on all recording channels*
- ❑ *Taking appropriate corrective action for all suboptimal signals*
- ❑ *Determining appropriate corrective action to assure proper signal display*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 07 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 10 Impact of patient's physical/mental limitations on the conduct of sleep studies
- 14 Communication skills
- 15 Problem-solving skills
- 23 Equipment-specific operating and calibration procedures
- 29 Expected waveforms for each parameter (e.g., EKG, EOG, EMG, EEG, etc.)
- 30 Potential artifacts, their sources and appropriate corrective actions
- 31 Physiologic calibration procedures for each parameter (e.g., EKG, EOG, EMG, EEG, etc.)

DOMAIN 3. PERFORM POLYSOMNOGRAPHIC PROCEDURES

TASK 3.01 Follow procedural protocols [such as Multiple Sleep Latency Test (MSLT), Maintenance of Wakefulness Test (MWT), parasomnia studies, Positive Airway Pressure Titration (PAP), etc.] to ensure collection of appropriate data.

Procedural protocols include but are not limited to:

- ❑ *Polysomnography for evaluating disordered breathing*
- ❑ *Special parasomnia or seizure protocols*
- ❑ *Evaluation of movement disorders*

- ❑ *Multiple Sleep Latency Test*
- ❑ *Maintenance of Wakefulness Test*
- ❑ *Positive Airway Pressure titration*
- ❑ *Supplemental oxygen titration*
- ❑ *Testing to identify sleep disorders common to infants, toddlers, school age children, adolescents, adults, and the elderly*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 04 Sleep disorders (signs and symptoms)
- 06 Sleep disorders nosology
- 08 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 16 Clinical reasoning
- 18 Polysomnographic equipment and related peripherals, their uses and limitations
- 21 Therapeutic modalities/techniques
- 23 Equipment-specific operating and calibration procedures

TASK 3.02 Follow "lights out" procedures and document baseline values (such as body position, oxyhemoglobin saturation, respiratory and heart rates, etc.).

The technologist will inform the patient of "lights out" and document information including but not limited to the following:

- ❑ *"Lights out" time*
- ❑ *Patient position*
- ❑ *Oxygen saturation, CO₂ level*
- ❑ *Respiratory rate and heart rate*
- ❑ *Other pertinent information*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 09 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 10 Observation skills
- 12 Procedure for obtaining vital signs
- 14 Communication skills
- 21 Therapeutic modalities/techniques
- 23 Equipment-specific operating and calibration procedures

TASK 3.03 Monitor study tracing quality to ensure signals are artifact-free and make adjustments if necessary.

The technologist will:

- ❑ *Recognize and understand the cause of artifacts including but not limited to the following:*
 - *High frequency interference (e.g., electrical, muscle, 50/60 Hz)*
 - *Low frequency interference (e.g., sweat, respiratory, EKG)*
 - *Unstable or wavering DC baseline*
 - *Intermittent signal*
 - *Increased or reduced signal amplitude*
 - *Flat trace*
 - *High amplitude, intermittent artifact (e.g., popping)*
 - *Software or hardware malfunctions or inadequacies*

- *Take corrective action by making appropriate repairs or changes in recording parameters to assure the recording is adequate, including but not limited to the following:*
 - *Use back-up or alternative derivations*
 - *Alter montage to maintain essential information*
 - *Wake patient to replace/reposition electrodes or other monitoring devices*
 - *Alter patient's environment (e.g., turn on/off air conditioning)*
 - *Change amplifier settings*
 - *Replace faulty equipment*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 15 Problem-solving skills
- 16 Clinical reasoning
- 18 Polysomnographic equipment and related peripherals, their uses and limitations
- 23 Equipment-specific operating and calibration procedures
- 26 International 10-20 electrode placement system
- 27 Appropriate electrode/sensor application/removal techniques
- 29 Expected waveforms for each parameter (e.g., EKG, EOG, EMG, EEG, etc.)
- 30 Potential artifacts, their sources and appropriate corrective actions

TASK 3.04 Implement appropriate interventions (including therapeutic intervention such as continuous and bi-level positive airway pressure, supplemental oxygen, etc. and actions necessary to assure patient safety and well-being).

The technologist will recognize the need for and be able to implement interventions including but not limited to:

- *Responding appropriately to patient's medical problems (e.g., seizure, diabetic, stroke patients)*
- *Assuring the availability and proper function of emergency equipment and supplies (e.g., crash cart, suction, and CPR board)*
- *Ensuring that patient safety is not compromised due to electrical or mechanical hazards*
- *Recognizing "normal" versus abnormal cardiac rates and rhythms for patients based on their individual medical history*
- *Initiating CPR for adult, child or infant when appropriate*
- *Implementing appropriate precautions and/or procedures for other medical conditions*
- *Identifying indications, contraindications and/or side effects of PAP*
- *Obtaining and verifying physician's order and implement special procedures, when indicated, for PAP therapy*
- *Using appropriate devices for PAP titration and supplemental oxygen administration*
- *Selecting and fitting appropriate PAP patient interface devices*
- *Titration and documenting PAP level (s) to achieve therapeutic goal*
- *Verifying optimal PAP relative to sleep state and sleeping posture*
- *Obtaining a physician order for, and interface the delivery of, supplemental O₂ when indicated*
- *Administering nocturnal supplemental O₂ per physician orders and protocols*
- *Verifying physician orders according to patient's current medical history*
- *Recognizing indications, complications and contraindications of O₂ therapy*
- *Selecting and evaluating appropriate oxygen delivery equipment*
- *Applying appropriate O₂ delivery device, ensuring proper fit and patient comfort*
- *Titration and documenting O₂ level (s) to achieve therapeutic goal*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 05 Pathophysiology (especially as it related to or impacts sleep studies; e.g., breathing disorders, cataplexy, parasomnia activity, seizures, cardiac dysrhythmias, etc.)
- 06 Medication effects (especially as they relate to or impact sleep studies and patients' needs)
- 07 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 14 Communication skills
- 16 Clinical reasoning
- 21 Therapeutic modalities/techniques
- 23 Equipment-specific operating and calibration procedures
- 25 Infection control procedures (e.g., sterilization, airborne diseases, etc.)
- 32 Emergency response procedures (e.g., CPR, fire, etc.)
- 33 Appropriate procedures related to patient safety (e.g., seizure sleep walking, etc.)
- 34 Event characteristics (e.g., respiratory, cardiac, sleep stage, etc.) and professionally accepted scoring guidelines

TASK 3.05 Document routine observations, changes in procedure, and significant events to facilitate scoring and interpretation of polysomnographic results.

The technologist recognizes and documents events including but not limited to the following:

- Clock time at regular intervals*
- Body position changes*
- Changes made during recording*
- Patient complaints*
- Environmental conditions (e.g. noises, light)*
- Interventions or treatments (e.g. adjusting electrodes, applying PAP etc)*
- Verification of readouts from ancillary equipment*
- Equipment problems or malfunctions and steps taken to correct them*
- Electrode integrity checks at regular intervals (e.g. electrical interference checks and impedance checks)*
- Respiration and heart rate at regular intervals*
- Seizure activity*
- Apnea/hypopnea/respiratory event-related arousals*
- Oxygen desaturations*
- Carbon-dioxide retention*
- Abnormal cardiac rhythms*
- Unusual vocalizations/motor activity*
- Violent behaviors*
- Cataplexy or sleep paralysis*
- Unusual EEG findings*
- Difficulties falling and/or remaining asleep*
- Patient discomfort*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 04 Sleep disorders (signs and symptoms)
- 05 Pathophysiology (especially as it related to or impacts sleep studies; e.g., breathing disorders, cataplexy, parasomnia activity, seizures, cardiac dysrhythmias, etc.)
- 06 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 09 Observation skills
- 18 Polysomnographic equipment and related peripherals, their uses and limitations
- 29 Expected waveforms for each parameter (e.g., EKG, EOG, EMG, EEG, etc.)
- 30 Potential artifacts, their sources and appropriate corrective actions

- 32 Emergency response procedures (e.g., CPR, fire, etc.)
- 33 Appropriate procedures related to patient safety (e.g., seizures, sleep walking, etc.)
- 34 Event characteristics (e.g., respiratory, cardiac, sleep stage, etc.) and professionally accepted scoring guidelines

TASK 3.06 Follow "lights on" procedures to verify integrity of collected data and complete the data collection process.

The technologist performs and documents events including but not limited to the following:

- Awaken patient and record time of "lights on"
- Perform post-test calibration procedure
- Remove electrodes and other recording devices using appropriate technique
- Gently and effectively clean all electrodes/adhesive contact points
- Administer post-sleep questionnaire

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 07 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 14 Communication skills
- 23 Equipment-specific operating and calibration procedures
- 24 Electrical safety
- 25 Infection control procedures (e.g., sterilization, airborne diseases, etc.)
- 27 Proper electrode/sensor application/removal techniques
- 31 Physiologic calibration procedures for each parameter (e.g., EKG, EOG, EMG, EEG, etc.)

DOMAIN 4. PERFORM POLYSOMNOGRAPHIC RECORD SCORING

TASK 4.01 Score sleep/wake stages by applying professionally accepted guidelines.

The technologist will identify EEG patterns associated with sleep, and score the stages of sleep, following scoring guidelines in Rechtschaffen and Kales Sleep Stage Scoring Manual.

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

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- 05 Sleep disorders nosology
- 06 Medication effects (especially as they relate to or impact sleep studies and patients' needs)
- 07 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 16 Clinical reasoning
- 18 Polysomnographic equipment and related peripherals, their uses and limitations
- 21 Therapeutic modalities/techniques
- 22 Basic bi-potential electrophysiology (e.g., EEG, EMG, ECG)
- 23 Equipment-specific operating and calibration procedures
- 26 International 10-20 electrode placement system
- 29 Expected waveforms for each parameter (e.g., EKG, EOG, EMG, EEG, etc.)
- 30 Potential artifacts, their sources and appropriate corrective actions
- 34 Event characteristics (e.g., respiratory, cardiac, sleep stage, etc.) and professionally accepted scoring guidelines

TASK 4.02 Score clinical events (such as respiratory events, cardiac events, limb movements, arousals, etc.) according to current professionally-accepted guidelines.

Events scored include but are not limited to:

- ❑ *Body movements*
- ❑ *Movement arousals*
- ❑ *EEG arousals*
- ❑ *Event-related arousal*
- ❑ *Seizure activity*
- ❑ *Normal vs. abnormal cardiac rhythms*
- ❑ *Other activity such as alpha-delta sleep, drug spindles, EEG asymmetry*
- ❑ *Periodic Limb movements*
- ❑ *Respiratory events: (apnea, hypopnea, periodic breathing, snoring, Cheyne-Stokes breathing, SpO₂ desaturation events, event-related CO₂ level, event-related cardiac abnormalities, upper airway resistance and respiratory event-related arousals)*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

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- 05 Sleep disorders nosology
- 06 Medication effects (especially as they relate to or impact sleep studies and patients' needs)
- 07 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 16 Clinical reasoning
- 18 Polysomnographic equipment and related peripherals, their uses and limitations
- 21 Therapeutic modalities/techniques
- 22 Basic biopotential electrophysiology (e.g., EEG, EMG, ECG)
- 23 Equipment-specific operating and calibration procedures
- 26 International 10-20 electrode placement system
- 29 Expected waveforms for each parameter (e.g., EKG, EOG, EMG, EEG, etc.)
- 20 Potential artifacts, their sources and appropriate corrective actions
- 34 Event characteristics (e.g., respiratory, cardiac, sleep stage, etc.) and professionally accepted scoring guidelines

4.03 TASK STATEMENTS: Generate accurate reports by tabulating sleep/wake and clinical event data.

The technologist uses data from polysomnograms, MSLTs, MWTs and other diagnostic procedures to do the following including but not limited to:

- ❑ *Calculate descriptors including but not limited to:*
 - *Lights-out/lights-on times*
 - *Total recording time*
 - *Total sleep time*
 - *Total sleep time and sleep efficiency*

- *Amount and percentage of stages of sleep*
 - *Amount and percentage of REM sleep, NREM sleep and movement time*
 - *Amount and percentage of wake time, wake after sleep onset, and wake after final arousal*
 - *initial sleep latency*
 - *Latency from sleep onset to stage 2, 3, 4 and to REM sleep.*
 - *REM sleep episode assessment.*
 - *Arousal analysis*
 - *Range and averages for heart and respiratory rate*
 - *Percent of apneic sleep time*
 - *Apnea events per REM and NREM*
 - *Apnea index*
 - *Percent of sleep time hypopneic*
 - *Hypopnea events per REM and NREM*
 - *Hypopnea Index*
 - *Apnea/Hypopnea Index*
 - *Respiratory disturbance index*
 - *Respiratory events per body position for total sleep, for REM and for NREM sleep*
 - *Lowest desaturation level overall, for REM and for NREM sleep*
 - *Average / typical desaturation level*
 - *Longest respiratory event duration per total sleep, per REM and per NREM sleep*
 - *Average / typical respiratory event duration*
 - *Number of respiratory arousals per total sleep, per REM per NREM*
 - *Number of periodic limb movements per total sleep, per REM and per NREM sleep*
 - *PLM index with and without arousal*
- *Generate computerized reports by:*
- *Accurately entering data into computer for processing*
 - *Saving and retrieving data*
 - *Recognizing and correcting invalid data and results*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 01 Medical records (e.g., sleep study orders, consent forms, medical charts, etc.)
- 04 Sleep disorders (signs and symptoms)
- 06 Sleep disorders nosology
- 08 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 15 Problem-solving skills
- 16 Clinical reasoning
- 18 Polysomnographic equipment and related peripherals, their uses and limitations
- 21 Therapeutic modalities/techniques
- 34 Event characteristics (e.g., respiratory, cardiac, sleep stage, etc.) and professionally accepted scoring guidelines
- 35 Basic math

DOMAIN 5. ENGAGE IN SERVICE MANAGEMENT AND PROFESSIONAL ISSUES

TASK 5.01 Comply with applicable laws, regulations, guidelines and standards regarding safety and infection control issues.

The technologist will:

- ❑ *Determine that all equipment used meets accepted electrical safety standards*
- ❑ *Recognize unsafe electrical equipment and removing from use*
- ❑ *Recognize special hazards for patients*
- ❑ *Use proper handling and storage of supplies and flammables*
- ❑ *Dispose of hazardous materials, needles and sharps appropriately*
- ❑ *Determine appropriate methods to clean, disinfect or sterilize electrodes and ancillary equipment*
- ❑ *Safely lift and move patient without harm to patient or self*
- ❑ *Follow proper hand washing techniques when working with and between patients*
- ❑ *Follow universal infection precautions on all patients*
- ❑ *Comply with accreditation guidelines of appropriate regulatory agencies such JCAHO and AASM*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 24 Electrical safety
- 25 Infection control procedures (e.g., sterilization, airborne diseases, etc.)
- 32 Emergency response procedures (e.g., CPR, fire, etc.)
- 33 Appropriate procedures related to patient safety (e.g., seizures, sleep walking, etc.)
- 35 Applicable regulations and guidelines pertaining to hazardous material handling (e.g., oxygen, collodion, etc.)

TASK 5.02 Comply with BRPT Standards of Conduct

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 37 BRPT Standards of Conduct

TASK 5.03 Evaluate sleep study-related equipment and inventory

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 09 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 15 Problem-solving skills
- 16 Clinical reasoning
- 18 Polysomnographic equipment and related peripherals, their uses and limitations
- 21 Therapeutic modalities/techniques
- 23 Equipment-specific operating and calibration procedures
- 24 Electrical safety
- 35 Basic math
- 36 Applicable regulations and guidelines pertaining to hazardous material handling (e.g., oxygen, collodion, etc.)
- 38 Basic computer skills

TASK 5.04 Maintain and repair sleep study-related equipment

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 18 Polysomnographic equipment and related peripherals, their uses and limitations
- 23 Equipment-specific operating and calibration procedures

TASK 5.05 Educate patients regarding their condition and treatment and respond to individuals' sleep-related inquiries by providing appropriate information or referrals.

The technologist should do the following including but not limited to:

- *Arrange for home PAP unit and/or supplemental O₂ as per physician order*
- *Educate patients re:*
 - *Home PAP and /or supplemental O₂*
 - *Indications, contraindications and possible side effects of PAP and / or O₂*
 - *Cleaning/disinfecting of PAP equipment*
 - *Who to notify regarding equipment problems or return of symptoms*
 - *Availability of support groups in patient's area*
- *Implement sleep hygiene training*
- *Educate home care company personnel (when indicated) regarding:*
 - *Sleep-disordered breathing*
 - *Proper set up and maintenance of PAP*
 - *Expected patient follow-up and documentation of home visits*
- *Plan, conduct and evaluate education activities concerning:*
 - *The impact of, and treatment approach for, a particular diagnosis*
 - *Family responsibility with regard to treatment*
- *Engage in professional development/continuing education activities*

KNOWLEDGE/SKILLS/ABILITIES STATEMENTS:

- 01 Medical records (e.g., sleep study orders, consent forms, medical charts, etc.)
- 02 Basic physiology
- 03 Basic anatomy
- 04 Sleep disorders (signs and symptoms)
- 05 Pathophysiology (especially as it related to or impacts sleep studies; e.g., breathing disorders, cataplexy, parasomnia activity, seizures, cardiac dysrhythmias, etc.)
- 06 Sleep disorders nosology
- 07 Medication effects (especially as they relate to or impact sleep studies and patients' needs)
- 08 Polysomnographic procedural protocols (including overnight sleep studies, MSLT, MWT, PAP, etc.)
- 09 Observation skills
- 10 Impact of patient's physical/mental limitations on the conduct of sleep studies
- 11 Interviewing skills and techniques
- 13 Impact of lifestyles on sleep study requirements
- 14 Communication skills
- 15 Problem-solving skills
- 16 Clinical reasoning
- 17 Collaborate with health care professionals
- 20 Patient-appropriate instruction techniques (e.g., culture, age, educational level, appropriate instruction)
- 21 Therapeutic modalities/techniques
- 41 Available credible published information sources regarding sleep disorders (pamphlets, tapes public forums, Internet etc.)

Test Specifications

The criticality and frequency data from the Role Delineation Survey were used to determine the number of questions that should be included in the CRE from each Domain and Task. The Test Specification in the table below lists how many questions are included in each Domain.

BRPT COMPREHENSIVE REGISTRY EXAMINATION DETAILED CONTENT OUTLINE

Domains / Tasks	% of Exam	# of Items
Domain 1 - Gather and Analyze Patient Information Task 01: Review medical records and study orders Task 02: Collect data from patient Task 03: Analyze/integrate collected information	12%	24
Domain 2 - Perform Testing Preparation Procedures Task 01: Explain pre-testing / testing / post-testing to patient Task 02: Prepare / calibrate equipment Task 03: Apply electrodes and sensors Task 04: Observe calibration tracings and make adjustments Task 05: Perform physiologic calibrations and make adjustments	18%	36
Domain 3 - Perform Polysomnographic Procedures Task 01: Follow procedural protocols Task 02: Follow "lights out" procedures Task 03: Monitor study tracing quality and make adjustments Task 04: Implement interventions Task 05: Document routing observations, changes in procedure & significant events Task 06: Follow "lights on" procedures	34%	68
Domain 4 - Perform Polysomnographic Record Scoring Task 01: Score sleep/wake stages Task 02: Score clinical events Task 03: Generate reports	31%	62
Domain 5 - Engage in Service Management and Professional Activities Task 01: Comply with laws/regulations /guidelines re: safety/infection control Task 02: Comply with BRPT Standards of Conduct Task 03: Evaluate sleep study-related equipment and inventory Task 04: Maintain/repair sleep study-related equipment Task 05: Educate patients and respond to inquiries	5%	10