



## Sleep Technology: CORE COMPETENCY

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### **Polysomnography – June 2017**

*This core competency is not intended to be all-inclusive and may require modification to meet facility requirements. This document is intended to serve as a template and be modified to meet individual employer needs.*

Section One: General Preparation/Safety Review  
Section Two: Patient and Equipment Orientation  
Section Three: Preparing the Acquisition System  
Section Four: Electrode Application  
Section Five: Recording and Monitoring  
Section Six: Identifying and Managing Events

**OBJECTIVE:** To verify the knowledge and skill level of the individual employee in regards to all six core competencies associated with the sleep recording process.

**OUTCOME ASSESSMENT:** Outcome is determined by record review for adherence to sleep center policies and established guidelines. This competency evaluation tool provides an objective assessment of the performance level of the sleep technologist, technician and trainee.

**INSTRUCTIONS:** The evaluator assesses the employee in the performance of the competency, indicating either a **(Yes)** the employee is competent or a **(No)** the employee is not competent with the process. Competency is met when the employee performs the competency according to accepted standards and guidelines. For every **(No)** response, a corrective action plan should be outlined, discussed with the employee with a timeline for retesting, and documented in the comments section.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

EVALUATOR \_\_\_\_\_

**Section One: General Preparation / Safety Review**

*\*Comments: A correction plan and time line for retesting must be outlined for each (No) documented.*

| <b>General Preparation / Safety Review</b>   | <b>Yes</b> | <b>No</b> | <b>*Correction Plan/ Retesting Date</b> |
|--|------------|-----------|---|
| Identify emergency equipment and location  |            |           |   |
| Identify locations of emergency exits  |            |           |   |
| Describe appropriate process for accessing the Emergency Response System   |            |           |   |
| Demonstrate knowledge of HIPAA and describe appropriate measures for assuring patient confidentiality  |            |           |   |
| Demonstrate knowledge of patient rights and responsibilities (such as the right to refuse treatment)   |            |           |   |
| Demonstrate knowledge of professional/ethical behavior; conduct appropriate conversations, follow policies and procedures  |            |           |   |
| Establish patient rapport; interact appropriately, make patient comfortable with the procedure   |            |           |   |
| Demonstrate knowledge of infection control and universal precautions; utilize appropriate hand hygiene   |            |           |   |
| Utilize appropriate infection control procedures according to sleep center policy  |            |           |   |
| Demonstrate knowledge of equipment, electrode and sensor cleaning and maintenance, utilizing sleep center policies and procedures                                  |            |           |   |
| Perform chart review of history and physical prior to testing  |            |           |   |
| Review and assure completeness of questionnaires   |            |           |   |
| Conduct an appropriate and complete patient interview:<br>Sleep history<br>Typical sleep routine<br>Symptoms<br>Caffeine and medication intake<br>Sleep complaints |            |           |   |

| <b>General Preparation / Safety Review</b>  | <b>Yes</b> | <b>No</b> | <b>*Correction Plan/ Retesting Date</b> |
|---|------------|-----------|---|
| Evaluate patient and adjust approach to meet individual learning, communication and other needs following sleep center protocols<br>Readiness to learn/mental age<br>Ability to communicate<br>Physical, emotional and cultural needs |            |           |   |
| Make appropriate age specific adjustments in education, recording and documentation and scoring processes<br>Equipment, montage and parameter adjustments<br>Recording and documentation adjustments<br>Scoring adjustments           |            |           |   |
| Verify documentation is appropriate; legible, complete, signed and dated  |            |           |   |

NAME \_\_\_\_\_ DATE \_\_\_\_\_

EVALUATOR \_\_\_\_\_

**Section Two: Patient and Equipment Orientation**

*\* Comments: A correction plan and timeline for retesting must be outlined for each (No) documented.*

| Patient & Equipment Orientation   | Yes | No | *Correction Plan/ Retesting Date |
|---|-----|----|----------------------------------|
| Adhere to orientation process; greet patient appropriately, verify identity   |     |    |                                  |
| Orient the patient based on age and physical needs<br>Patient room layout and amenities<br>Intercom<br>Patient bathroom<br>Patient kitchen<br>Medication storage and access<br>Patient belongings storage area<br>Appropriate exit in case of emergency   |     |    |                                  |
| Provide an age appropriate explanation of the testing procedure   |     |    |                                  |
| Utilize the appropriate devices and explain the function of:<br>Polygraph<br>Oximeter and/or capnograph<br>Audio/video equipment<br>Reusable/disposable electrodes<br>Thermistors/thermocouples/pressure transducers<br>Effort sensors<br>Cannulas (pressure monitoring, oximetry, O <sub>2</sub> delivery, dual purpose)<br>Snoring sensors<br>Miscellaneous sensors (body position sensor, enuresis pads and sensors) |     |    |                                  |

NAME \_\_\_\_\_ DATE \_\_\_\_\_

EVALUATOR \_\_\_\_\_

**Section Three: Preparing the Acquisition System**

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| <b>Preparing the Acquisition System</b>   | <b>Yes</b> | <b>No</b> | <b>*Correction Plan/ Retesting Date</b> |
|---|------------|-----------|---|
| Recording parameters; define the recommended recording parameters for standard PSG  |            |           |   |
| Define bipolar and referential montages   |            |           |   |
| Describe routine montages (PSG, MSLT, MWT, PSG with PAP, seizure, parasomnia) and modifications for specific montage types; i.e. additional EEG leads for seizure montage |            |           |   |
| Define the principles related to minimum sampling rates for various signals   |            |           |   |
| Define appropriate high and low frequency filter settings for various signals   |            |           |   |
| Define appropriate sensitivity/gain settings for various signals  |            |           |   |
| Demonstrate the ability to change the epoch display size  |            |           |   |
| Demonstrate the ability to perform appropriate equipment calibrations   |            |           |   |
| Describe the minimum requirements for audio/visual recording during PSG   |            |           |   |
| Demonstrate the ability to interface an external oximeter/capnograph  |            |           |   |
| Demonstrate the ability to calibrate an oximeter or capnograph to the PSG system  |            |           |   |

NAME \_\_\_\_\_ DATE \_\_\_\_\_

EVALUATOR \_\_\_\_\_

**Section Four: Electrode Application**

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| <b>Electrode Application</b>  | <b>Yes</b> | <b>No</b> | <b>*Correction Plan/ Retesting Date</b> |
|---|------------|-----------|---|
| Accurately measure and mark EEG electrode placements according to the International 10-20 System of Electrode Placement                               |            |           |   |
| Demonstrate accurate placement of EEG electrodes, including system reference and ground electrodes  |            |           |   |
| Demonstrate accurate placement of ECG electrodes for a lead II recording  |            |           |   |
| Demonstrate accurate placement of E <sub>1</sub> and E <sub>2</sub> EOG electrodes according to AASM standards  |            |           |   |
| Demonstrate accurate placement of chin EMG electrodes according to AASM standards   |            |           |   |
| Demonstrate accurate placement of leg EMG electrodes according to AASM standards  |            |           |   |
| Demonstrate accurate placement of thermistor/thermocouple   |            |           |   |
| Demonstrate accurate placement of PTAF cannula  |            |           |   |
| Demonstrate accurate placement of effort belts  |            |           |   |
| Demonstrate accurate placement of SpO <sub>2</sub> sensor   |            |           |   |
| Utilize site preparation agents appropriately   |            |           |   |
| Describe or demonstrate paste and/or collodion application methods  |            |           |   |
| Describe the rationale behind the International 10-20 System of Electrode Placement measurements and the importance of measuring electrode placements |            |           |   |
| Articulate AASM standards for placement of other electrodes and recording devices   |            |           |   |
| Demonstrate the ability to manage wires and sensors to assure patient comfort during the recording  |            |           |   |

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**Section Five: Sleep Study Recording and Monitoring**

*\*Comments: A correction plan and timeline for retesting must be outlined for each (No) documented.*

| <b>Sleep Study Recording &amp; Monitoring</b>  | <b>Yes</b> | <b>No</b> | <b>*Correction Plan/ Retesting Date</b> |
|--|------------|-----------|---|
| Accurately perform and document instrument calibrations  |            |           |   |
| Perform and document patient calibrations, making necessary adjustments  |            |           |   |
| Provide appropriate patient instructions for the recording and inform patient of how to contact the technologist during the recording period               |            |           |   |
| Accurately document lights out   |            |           |   |
| Monitor EEG to assure quality of signals   |            |           |   |
| Accurately identify sleep stages   |            |           |   |
| Accurately identify sleep onset, arousals, awakenings and sleep fragmentation  |            |           |   |
| Assure adequate function of airflow signals  |            |           |   |
| Evaluate accuracy of oxygen saturation and carbon dioxide monitoring signals   |            |           |   |
| Identify limb movements  |            |           |   |
| Assure adequacy of respiratory effort signals  |            |           |   |
| Monitor ECG for cardiac arrhythmias  |            |           |   |
| Consistently document at appropriate intervals and with all position and instrumentation changes throughout the recording according to sleep center policy |            |           |   |
| Perform and document lights on procedure appropriately   |            |           |   |
| Complete appropriate post-recording calibrations   |            |           |   |
| Document an accurate summary of the sleep recording  |            |           |   |
| Save, transfer and archive files according to established protocols and sleep center policy  |            |           |   |

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**Section Six: Identifying and Managing Events**

*\*Comments: A correction plan and timeline for retesting must be outlined for each (No) documented.*

| <b>Identifying &amp; Managing Events</b>   | <b>Yes</b> | <b>No</b> | <b>*Correction Plan/ Retesting Date</b> |
|--|------------|-----------|---|
| <b>Identify and Respond to Clinical Events</b>   |            |           |   |
| Identify and respond appropriately to various cardiac arrhythmias; identify life-threatening arrhythmias                               |            |           |   |
| Identify and respond appropriately to patients in respiratory distress   |            |           |   |
| Identify and respond appropriately to seizures   |            |           |   |
| <b>Identify and Manage Technical and Patient Events</b>  |            |           |   |
| Recognize and correct artifacts in the recording   |            |           |   |
| Demonstrate ability to troubleshoot equipment, determine source of artifact or equipment malfunction and make appropriate adjustments  |            |           |   |
| Demonstrate ability to identify and correct patient-generated artifact   |            |           |   |
| Identify and document recording variances caused by medication effect; e.g. Prozac eyes, increased spindle activity, alpha-delta sleep |            |           |   |
| Demonstrate the ability to professionally handle difficult patient situations  |            |           |   |