



# Sleep Technology: CORE COMPETENCY

2510 North Frontage Road, Darien, IL

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## Polysomnography - Updated July 2012

Section One: General Preparation/Safety Review

Section Two: Patient and Equipment Orientation

Section Three: Preparing the Acquisition System

Section Four: Electrode Application

Section Five: PSG 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 PSG 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 polysomnographic technologist, polysomnographic technician and polysomnographic 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)** a plan for correction should be outlined with a timeline for retesting. The correction plan and timeline must be documented in the comments section.

### Example:

NAME \_\_\_\_\_(employee name)\_\_\_\_\_ DATE \_\_\_\_\_

EVALUATOR \_(Name of person performing the competency evaluation)\_\_\_\_\_

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

General Preparation / Safety Review	Yes	No	*Correction Plan/ Retesting Date
Identify emergency equipment and location	x		
Identify locations of emergency exits		x	Review the location of exits within the sleep center on (Date)

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 EMS			
Demonstrate knowledge of HIPAA protections and patient confidentiality; describe appropriate measures for assuring patient confidentiality			
Demonstrate knowledge of patient rights; describe patient rights, 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 hand washing procedures and gloves appropriately			
Utilize appropriate infection control procedures			
Demonstrate knowledge of equipment, electrode and sensor cleaning and maintenance; clean items appropriately to assure disinfection			
Perform chart review of history and physical; review chart prior to testing			
Review and assure completeness of questionnaires			
Conduct an appropriate and complete patient interview: Sleep history Sleep patterns Typical sleep routine Symptoms Caffeine and medication intake 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 Readiness to learn/mental age Ability to communicate Physical, emotional and cultural needs			
Make appropriate age specific adjustments in education, recording and documentation and scoring processes Patient/caregiver education Equipment, montage and parameter adjustments Recording and documentation adjustments Scoring adjustments			
Verify documentation is appropriate; documentation is 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 Patient room layout and amenities Call bell/intercom Patient bathroom Patient kitchen Medication storage and access Patient belongings storage area Appropriate exit in case of emergency			
Provide an age appropriate explanation of the testing procedure			
Utilize the appropriate devices and explain the function of: Polygraph Oximeter and/or capnograph Audio/video equipment Reusable/disposable electrodes Thermistors/thermocouples/pressure transducers Effort sensors Cannulas (pressure monitoring, oximetry, O <sub>2</sub> delivery, dual purpose) Snoring sensors Miscellaneous sensors (body position sensor, enuresis pads and sensors)			

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

EVALUATOR \_\_\_\_\_

### Section Three: Preparing the Acquisition System

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

Preparing the Acquisition System	Yes	No	*Correction Plan/ Retesting Date
Recording parameters; define the AASM 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***\*Comments: A correction plan and timeline for retesting must be outlined for each (No) documented.*

<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, within 0.5 cm of standard measurements			
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			

NAME \_\_\_\_\_

DATE \_\_\_\_\_

EVALUATOR \_\_\_\_\_

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

<b>PSG 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 night			
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 arrhythmias			
Consistently document at appropriate intervals and with all position and instrumentation changes throughout the recording			
Perform and document lights on procedure appropriately			
Complete appropriate post-recording calibrations			
Document an accurate summary of the night's recording			
Save, transfer and archive files according to established protocols			

NAME \_\_\_\_\_

DATE \_\_\_\_\_

EVALUATOR \_\_\_\_\_

**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			
Demonstrate the ability to handle difficult situations with patients professionally			