

ADULT POLYSOMNOGRAPHY PROTOCOL

PURPOSE

Polysomnographic studies are performed on patients to diagnose a variety of sleep disorders when ordered by a sleep staff physician, or by another physician, with the approval of the facility director or an appropriately licensed medical staff member. The following protocol for polysomnography is consistent with the *AASM Practice Parameters for the Indications for Polysomnography and Related Procedures: An Update for 2005*.

POLICY

Possible indications for polysomnography include:

- Sleep-related breathing disorders
- Continuous positive airway pressure (CPAP) titration in patients with sleep-related breathing disorders
- Prior to a multiple sleep latency test in the evaluation of suspected narcolepsy
- In evaluating sleep-related behaviors that are violent or otherwise potentially injurious to the patient or others
- Certain atypical or unusual parasomnias
- Neuromuscular disorders and sleep related symptoms
- To assist in the diagnosis of paroxysmal arousals or other sleep disruptions thought to be seizure related
- In a presumed parasomnia or sleep related seizure disorder that does not respond to conventional therapy
- When there is a strong clinical suspicion of periodic limb movement disorder.

The diagnostic portion of the split night sleep study should be performed according to the *AASM Practice Parameters for the Indications for Polysomnography and Related Procedures: An Update for 2005*. Application of electrodes, montages, filters, sensitivities, and scoring will be performed according to the *AASM Scoring Manual*.

- Split night testing may be considered when the total AHI is >40 events per hour with a minimum of 120 minutes of recorded sleep during the diagnostic portion of the sleep study, provided there is no known or documented contraindication to application of positive airway pressure therapy.

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PROCEDURE

1.0 Recorded parameters:

- 1.1 EEG
- 1.2 EOG
- 1.3 Chin EMG
- 1.4 Leg EMG
- 1.5 Airflow
- 1.6 Respiratory effort
- 1.7 Oxygen saturation
- 1.8 Body position
- 1.9 ECG

2.0 Upon admission to the sleep facility, each patient will have an assessment completed by the sleep facility technologist for data collection and to determine any immediate needs or concerns.

3.0 Admission assessment will include the following:

- 3.1 Review of demographic information
- 3.2 Reason for sleep study
- 3.3 Physiological parameters
- 3.4 Current medications
- 3.5 Environment—special needs of the patient (e.g., hearing aid, glasses, cane, interpreter)
- 3.6 Patient/family education
- 3.7 Discharge planning: Where? With whom?
- 3.8 Reminder to patient of follow-up appointment with referring physician

4.0 Step-by-step directions:

- 4.1 Have all equipment ready when patient comes into the room.
- 4.2 Inspect all electrodes.
- 4.3 Instruct patient to change into clothes to sleep in.
- 4.4 Have patient sit in the chair.
- 4.5 Explain procedure to patient.
- 4.6 Clean the site of each electrode on the patient before placement.
- 4.7 Fill each electrode cup with conductive paste.
- 4.8 Attach the EEG sensors and the ground (F4, C4, O2, and M1).
- 4.9 Place the left oculogram electrode (EOG) above the midline of the left outer canthus.
- 4.10 Place the right oculogram electrode (EOG) under the midline of the right outer canthus.
- 4.11 Place one chin EMG electrode on the midline of the inferior edge of the mandible.
- 4.12 Place ventilatory effort bands above the breast bone and around the midline of the abdomen. Ensure there is a separation between the bands.
- 4.13 Attach the pulse oximeter.
- 4.14 Prep the patient's legs with alcohol for the EMG electrodes placement.
- 4.15 Place the EMG electrodes below the inferior edge of the mandible to the right and left of the midline. Secure electrodes with tape.

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- 4.16 Tape the snore microphone on the left or right side of the Adams apple.
- 4.17 Connect all patient cables headbox and oximetry probe.
- 4.18 Instruct patient to lay supine and very still, eyes open.
- 4.19 Perform bio-calibrations prior to lights out and after lights on while recording.
- 4.20 Review data for artifacts, change electrodes/sensors as needed.
- 4.21 If all-night CPAP titration is ordered, fit patient with mask and begin CPAP therapy.
See CPAP Titration policy and procedure.
- 4.22 Instruct patient that he/she may watch TV or read until lights out.
- 4.23 If patient wants to go to sleep, lights are turned off.
- 4.24 Begin testing.
- 4.25 Enter tags into computer; lights out, body position, etc. every 30 minutes and as needed.
- 4.26 Diagnosis will be completed by an appropriately licensed physician and will be reviewed by an individual board certified in sleep medicine.