

SAMPLE
Split Night Polysomnography Report

History: Upon review of the available data, the patient reports symptoms including: snoring and daytime sleepiness. The Epworth Sleepiness score is 19 / 24.

Technical Summary: Attended in-laboratory recording montage included: EEG, EOG, EMG, EKG, nasal thermistor flow, nasal pressure, pharyngeal snoring, respiratory effort (2 channels), anterior tibialis EMG, SaO2 and body position. Continuous Positive Airway Pressure (CPAP) was initiated after the patient demonstrated clinically significant obstructive sleep apnea. This study was performed in accordance with the AASM scoring manual.

PRE-CPAP DATA				ALL NIGHT DATA			
Baseline Duration	184.0 min	Total RDI	93.2	WASO	51.0 min	Total Recording Time	412.0 min
Sleep Time	114.0 min	NREM RDI	95.8	Stage N1	49.1 %	Total Sleep Time	238.0 min
Sleep Efficiency	62.0%	Stage R RDI	66.0	Stage N2	42.1 %	Sleep Efficiency	63.8%
Sleep Latency	10.5 min	Supine RDI	91.11	Stage N3	0.00 %		
Obstructive Apnea	3	Non-supine RDI	107.4	Stage R	8.8 %		
Mixed Apnea	0	Medicare AHI	88.9	Stage R Latency	132.0 min		
Central Apnea	16	Min %SaO2	69 %			PLM index	0.00
Hypopnea	158	Baseline %SaO2	92 %			PLM arousal index	0.00

Snoring: Frequent and loud during the diagnostic portion of the study.

PAP was titrated from 5 to 11 cm of water pressure. At a CPAP pressure of 10 cm of water, supine-REM sleep was observed with very rare respiratory events. Lower pressures were associated with respiratory events.

EKG Findings: Single-lead demonstrated isolated premature atrial and ventricular complexes.

EEG Findings: Three channel EEG demonstrated no seizure activity.

Further Interpretive Notes: The patient reported that sleep was better than usual, awoke feeling rested and would be willing to wear CPAP at home.

Diagnosis:

- Obstructive Sleep Apnea 327.23

Discussion:

- Treatment for severe obstructive sleep apnea is often warranted even in the absence of clinical symptoms. Recommended options include positive airway pressure, custom-made oral appliances, or upper airway surgery. Regardless of treatment approach for the obstructive sleep apnea, maximization of nasal airway patency, weight loss if appropriate, and avoidance of sedatives and alcohol in proximity to bedtime are strongly encouraged.
- This study shows the effectiveness of CPAP in treating sleep-disordered breathing. Consider a trial of **CPAP at 10 cm of water** pressure during sleep with clinical follow-up to assess treatment response.

Key to Terms on a Polysomnogram Report

TERM	DEFINITION
Apnea	Total cessation of airflow for more than 10 seconds.
ASV	Adaptive Servo-ventilation; a form of positive pressure therapy designed to treat certain types of central sleep apnea, particularly Cheyne-Stokes respiration.
Bi-level PAP	Bi-level Positive Airway Pressure, at times referred to as BiPAP (a trademarked name); this form of positive pressure therapy involves use of two pressures, an inspiratory pressure, and an expiratory pressure.
Central apnea	Cessation of airflow for more than 10 seconds with reduction in movement of thorax and abdomen; may be related to changing from wake to sleep, cardiac problems, neurological problems or medications like narcotics.
CPAP	Continuous Positive Airway Pressure; a primary form of therapy for obstructive sleep apnea in which pressurized room air maintains airway patency, measured in centimeters of water.
EEG	Electroencephalography; measurement of brain waves via standard electrode placement.
EKG	Electrocardiogram; measurement of cardiac activity. Typically, a single lead is used for polysomnography.
EMG	Electromyography; measurement of muscle activity, often placed on the chin and both lower extremities for sleep studies.
EOG	Electro-oculography; measurement of eye movements via standard electrode placement.
Epworth Sleepiness Scale	An 8-question, 24-point scale measuring levels of sleepiness. Studies have generally used levels above 10 or 11 as abnormal.
Hypopnea	A reduction in airflow for more than 10 seconds associated with either a desaturation or an arousal from sleep. These are often obstructive, but at times may have more central characteristics.
Medicare AHI	Apnea-Hypopnea Index; the number of apnea and hypopneas per hour based on criteria specified by Medicare. The index is important documentation for coverage of positive pressure therapy for Medicare patients.
NREM	Non-rapid eye movement sleep. Generally the majority (75-80%) of the night of sleep. Segmented into stages N1 (stage 1), N2 (stage 2), and N3 (or slow wave sleep).

TERM	DEFINITION
Obstructive Apnea	Cessation of airflow related to upper airway closure for more than 10 seconds with continued thorax and abdominal muscle movement.
PAP	Positive air pressure. One form of treatment for obstructive sleep apnea.
PLM	Periodic Limb Movement; a series of 4 or more limb movements of a certain duration, frequency, and amplitude. All PLMs meeting criteria are counted and classified by total number, number per hour, and whether or not the movements were associated with an awakening (EEG measured arousal).
RDI	Respiratory Disturbance Index; the total number of abnormal respiratory events per hour.
Split-night Polysomnogram	The first portion of this study is performed as a diagnostic polysomnogram to determine the presence and extent of sleep-related breathing disorders or other sleep disruptors. If a certain degree of sleep apnea is documented, positive airway pressure (PAP) therapy is titrated in the second half of the night to help determine the optimal treatment pressure. In the SHC system, PAP is started after 2 hours of recorded time asleep with respiratory events greater than 20/hour over that recorded time. If this criterion is not met, the study continues to collect diagnostic information for the remainder of the night. In some scenarios, the patient may not surpass a respiratory disturbance index of 20/hour in the first half of the night (and so is not placed on PAP), but may have more significant sleep-disordered breathing in the latter half of the night, ending up with a respiratory disturbance index of more than 20 events/hour.
Stage N1	The lightest stage of sleep.
Stage N2	The stage of sleep where most adults spend the majority of their time.
Stage N3	Slow wave sleep; also called delta sleep.
Stage R	Rapid Eye Movement sleep (REM sleep), often the state where dreaming is most vigorous. Sleep-disordered breathing is often at its worst in this stage.
WASO	Wake After Sleep Onset; The number of minutes awake after initial onset of sleep and before the final awakening of the night.