

Home Sleep Study - Summary & Interpretation

Patient: _____ **Ordering Physician:** _____ **Preferred Medical Equipment Supplier:** _____

Sleep Specialist Interpretation of Home Sleep Study

Impressions:

Recommendations:

* The Medicare definition of AHI is 'events per hour of sleep time.' The ApneaLink+ measures events per hour of recording time, which is referred to as the RDI in Medicare coverage policy. Coverage criteria is the same for AHI and RDI. See page 3, subpoint A for additional details.
****NOTE:** See page 3 for important footnotes, clinical reference, and details about home sleep studies and the ApneaLink+ device and software.

Home Sleep Study - Analysis

Patient:

IDS Report #:

AHI/RDI* (Apnea-Hypopnea Index)

Recording Started:

Evaluation Start Time:

Recording Duration:

Evaluation Duration:

Analysis:

Total Apneas

- Obstructive Apneas
- Central Apneas
- Mixed Apneas
- Unclassified Apneas

Snoring Events

- % Flow Ltd Br. w/o Snore
- % Flow Ltd. Br. w. Snore
- Total Flow Ltd. Br w/o Snoring
- Total Flow Ltd Br w/ Snoring
- Number of Breaths
- Avg Breath per min.

Total Hypopneas

AHI/RDI* (Apnea-Hypopnea Index)

(Normal < 5/hr)

Spo2:

Duration:

Normal Range

O2 Desat Index (ODI)

< 5/hr

Total Desaturations

Avg. Saturation

94% - 98%

Lowest Desat Event

Lowest Saturation

90% - 96%

Spo2 <= 90%

Baseline Spo2

-

Spo2 <= 89%

Avg Pulse Rate (bpm)

-

Spo2 <= 88%

Max Pulse Rate (bpm)

60 - 90

Spo2 <= 85%

Min Pulse Rate (bpm)

50 - 70

Spo2 <= 80%

* The Medicare definition of AHI is 'events per hour of sleep time.' The ApneaLink+ measures 'events per hour of recording time', which is referred to as the RDI in Medicare coverage policy. See page 3, subpoint A for additional details.

Home Sleep Study - Important References & Information

To assist you in providing optimal care for your patient, the IDS Expert Medical Panel has provided information describing the capabilities of this ApneaLink AIR Type III Home Sleep Study as well as additional references regarding medicare coverage policies and the use of APAP. Please review these prior to finalizing your patient's treatment plan.

- A. Medicare definition of AHI vs RDI - Medicare CPAP and oral appliance coverage policies as of this revision define the AHI (Apnea-Hypopnea Index) as "the average number of episodes of apnea and hypopnea per hour of **sleep**". The respiratory disturbance index (RDI) is defined as "the average number of apneas plus hypopneas per hour of **recording**". The PAP qualification criteria is the same for both RDI & AHI: The AHI or RDI must be greater than or equal to 15 events per hour with a minimum of 30 events, or the AHI or RDI is greater than or equal to 5 and less than or equal to 14 events per hour with a minimum of 10 events and documentation of one or more of the following: Excessive daytime sleepiness, impaired cognition, mood disorders, or insomnia; or Hypertension, ischemic heart disease, or history of stroke. While the Apnealink Air software and this report refers to the Apnea + Hypopnea score as AHI, type III and IV portable monitors such as the Apnealink+ do not record sleep time, and thus **for the purposes of Medicare coverage and documentation the AHI in this report falls under the Medicare definition of RDI.**
- B. Potential Underestimated Scoring in a Home Sleep Test - Since sleep time is not scored by a type III or type IV testing device, the denominator used by the ApneaLink Air to determine the AHI is not total sleep time but rather total evaluation time (valid airflow time). Given the aforementioned, if a patient did not sleep during a high percentage of the evaluation time, the AHI for these device types may be underestimated and false negatives can occur. Therefore, the IDS Expert Medical Panel recommends that any patient with symptoms warranting a home sleep study for suspected sleep apnea be referred to a board certified or board eligible sleep specialist for further evaluation in the event the Home Sleep Test is negative.
- C. Apnealink SpO2 - The ApneaLink was developed to assess for the presence of apnea and not to measure the extent of severe oxygen saturation abnormalities (minimum or mean). The lowest oxygen saturation value recorded, used in calculations and listed by the ApneaLink is 70%. Therefore, if the oxygen saturation drops below 70%, the minimum and mean reported oxygen saturation will be underestimates. This should be taken into consideration when reviewing test results.
- D. Administering Autotitrating Positive Airway Pressure (APAP) - At present the IDS Expert Medical Panel recommends that APAP use be guided by the American Academy of Sleep Medicine's *Practice Parameters for the Use of Autotitrating Continuous Positive Airway Pressure Devices for Titrating Pressures and Treating Adult Patients with Obstructive Sleep Apnea Syndrome: An Update for 2007*. At the time of this revision, this may be reviewed and/or downloaded from the AASM website at: http://www.aasmnet.org/Resources/PracticeParameters/PP_Autotitrating_Update.pdf
- E. Medicare PAP Compliance Requirements: Medicare has specific requirements for PAP compliance that must be met during the first 90 days of use to continue coverage for CPAP from day 91 and beyond. This policy requires that patients use a PAP device 4hrs per 24hr period, at least 70% of the time over a 30 day period. This data must be downloaded as a report direct from the PAP devices. Your PAP supplier should be able to assist in this matter if needed.
- F. Note on RERA's - This report does not include Respiratory Effort-Related Arousals (RERAs: respiratory events characterized by increasing respiratory effort or flattening of the nasal pressure waveform leading to an arousal from sleep but associated with < 4% oxygen desaturation). These events may have similar clinical consequences as obstructive apneas and obstructive hypopneas, however it should also be noted that all four medicare DME MAC local coverage policies for PAP from April 2010 state "For purposes of this policy, respiratory effort related arousals (RERAs) are not included in the calculation of the AHI or RDI."
- G. Evaluation duration is airflow time & the denominator used in calculation of AHI/breathing event indices. Spo2 duration is the denominator for O2 Desaturation Index. Because sleep time is not measured, Medicare actually defines AHI as "RDI" in coverage policies, see point A above for details.

REFERENCE: ++ Hirshkowitz M, Kryger MH: Monitoring Techniques for Evaluating Suspected Sleep-Disordered Breathing. In Kryger MH, Roth T, Dement WC (eds): Principles and Practice of Sleep Medicine, 4th ed. Philadelphia, Elsevier Saunders, 2005, pp 1379.