

Rose Hill
Sleep Disorder Center

PAP TITRATION INTERPRETATION REPORT

S [REDACTED]

READING PHYSICIAN: [REDACTED] SCORING TECHNICIAN: Robert [REDACTED]

INDICATIONS: This 23 year-old Male was previously diagnosed with sleep apnea. The Epworth Sleepiness Scale was 5 out of 24 (scores above or equal to 10 are suggestive of hypersomnolence).

DESCRIPTION: A sleep technologist was in attendance for the duration of the recording. Data collection, scoring, video monitoring, and reporting were performed in compliance with the AASM Manual for the Scoring of Sleep and Associated Events; (Hypopnea is scored based on the criteria listed in Section VIII D. 1b in the AASM Manual V2.6 using a 4% oxygen desaturation rule or Hypopnea is scored based on the criteria listed in Section VIII D. 1a in the AASM Manual V2.6 using 3% oxygen desaturation and /or arousal rule). A physician certified by the American Board of Sleep Medicine reviewed each epoch of the study.

ADDITIONAL INFORMATION : **Height:** 75.0 in **Weight:** 171 lb (BMI 21) **Medications:** Methylphenidate, Mirtazapine

FINDINGS : Please refer to the attached summary for additional quantitative information.

DIAGNOSIS:

Obstructive sleep apnea syndrome

IMPRESSION:

A full night CPAP titration polysomnogram was completed. CPAP was initiated at a setting of 5cm H2O with 2 L/min oxygen added per ordering physician and increased from this setting. At a pressure of 5cm H2O with 2 L/min supplemental oxygen, complete resolution of sleep apnea was observed. Both supine positioning and REM stage sleep were observed at this pressure. No other significant sleep-related abnormalities were noted.

RECOMMENDATIONS:

1. Initiate CPAP using a properly adjusted medium ResMed AirFit mask, or fit to patient comfort, at a pressure of 5cm H2O with heated humidification. Supplemental oxygen at 2 L/min added is recommended.
2. Close clinical follow-up to ensure proper comfort and usage of CPAP is paramount.
3. May consider nocturnal pulse oximetry once compliant on CPAP to assess for the need of supplemental oxygen.
4. May consider consultation with otolaryngology for airway assessment and possible surgical options for improvement. May consider dental consult for possible mandibular device.

5. Counsel patient on risks of driving or operating heavy machinery when tired as well as the hazards of using alcohol or sedatives at bedtime.

Please contact Dr. Swartz or Rose Sleep Disorders Center with questions or concerns. Thank you for allowing us to participate in this patient's care.

Keith Swartz, MD
Board Certified, Otolaryngology/Head and Neck Surgery
Board Certified, Sleep Medicine

SLEEP CONTINUITY AND SLEEP ARCHITECTURE: Lights off was at 21:15: and lights on 06:02: (8.8 hours in bed). Total sleep time was 467.0 minutes (15.0% supine; 85.0% lateral; 0.0% prone, 7.7% REM sleep), with a normal sleep efficiency at 88.6%. Sleep latency was normal at 28.5 minutes. REM sleep latency was increased at 136.0 minutes. Of the total sleep time, the percentage of stage N1 sleep was 8.5%, stage N2 sleep was 76.3%, stage N3 sleep was 7.5%, and REM sleep was 7.7%. There were 4 Stage R periods observed on this study night, 18 awakenings (i.e. transitions to Stage W from any sleep stage), and 93.0 total stage transitions. Wake after sleep onset (WASO) time accounted for 31 minutes.

AROUSAL: There were 48 arousals in total, for an arousal index of 6.2 arousals/hour. Of these, 2 were identified as respiratory-related arousals (0.3/hr), 1 were PLM-related arousals (0.1/hr), and 40 were non-specific arousals (5.1/hr)

RESPIRATORY MONITORING: Based on *CMS* criteria (using a 4% oxygen desaturation rule for scoring hypopneas), there were 1 apneas (0 obstructive; 1 central; 0 mixed), and 6 hypopneas. Apnea index was 0.1. Hypopnea index was 0.8. The apnea-hypopnea index was 0.9 overall (0.0 supine, 0.9 non-supine; 0.0 REM, 0.0 supine REM). There were 0 respiratory effort-related arousals (RERAs). The RERA index was 0.0 events/hr. Total respiratory disturbance index (RDI) was 0.9 events/hr. RDI results showed: supine RDI 0.0/hr; non-supine RDI 1.1/hr; REM RDI 0.0/hr, supine REM RDI 0.0/hr.

Based on *AASM* criteria (using a 3% oxygen desaturation and /or arousal rule for scoring hypopneas), there were 1 apneas (0 obstructive; 1 central; 0 mixed), and 9 hypopneas. Apnea index was 0.1. Hypopnea index was 1.2. The apnea-hypopnea index was 1.3 overall (0.9 supine, 1.2 non-supine; 0.0 REM, 0.0 supine REM). There were 0 respiratory effort-related arousals (RERAs). The RERA index was 0.0 events/hr. Total respiratory disturbance index (RDI) was 1.3 events/hr. RDI results showed: supine RDI 0.9/hr; non-supine RDI 1.4/hr; REM RDI 0.0/hr, supine REM RDI 0.0/hr.

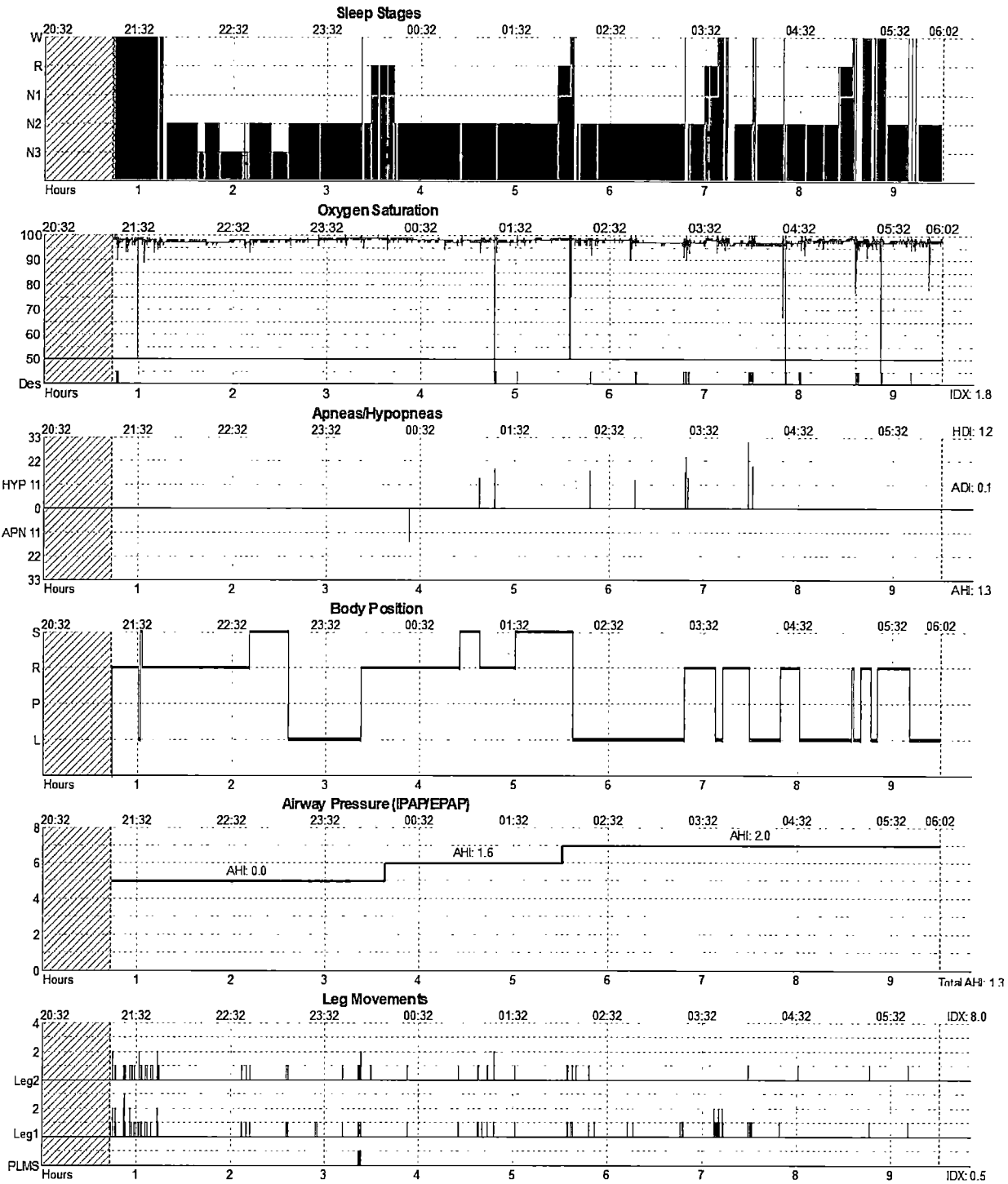
Respiratory events were associated with oxyhemoglobin desaturations (nadir during sleep 90%) from a mean of 98%). There were 0 occurrences of Cheyne Stokes breathing.

LIMB MOVEMENTS: There were 4 periodic limb movements of sleep (0.5/hr), of which 1 (0.1/hr) were associated with an arousal.

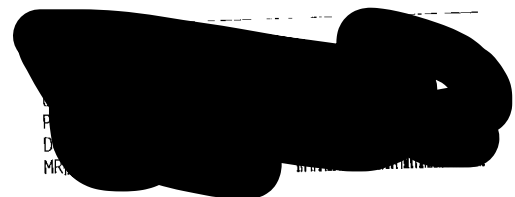
OXIMETRY: Total sleep time spent at, or below 88% was 0.1 minutes, or 0.0% of total sleep time. Snoring was classified as .

BODY POSITION: Duration of total sleep and percent of total sleep in their respective position is as follows: supine 70 minutes (15.0%), non-supine 397.0 minutes (85.0%); right 207 minutes (44.3%), left 190 minutes (40.7%), and prone 00 minutes (0.0%). Total supine REM sleep time was 07 minutes (20.8% of total REM sleep).

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Keith Swartz, MD on 04/14/2025 20:52:34.



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Keith Swartz, MD on 04/14/2025 20:52:34.



Medical

asthma, septoplasty '24, ADHD
Methylphenidate, Mirtazapine

Sleep Disorder

Sleep apnea

Comments

Noah Garrett arrives this evening for his 4th study with us in less than 6 months. He was also seen elsewhere, including a study in California at sea level that he pursued to compare results with ours. Patient c/o insomnia and fatigue. He is enrolled in college but is not able to attend due to fatigue. During the course, patient has had a septoplasty, moved on to new doctors, and has tried CPAP, BiPAP, ASV and O2. Apparently, patient has all 3 machines. He states he changes the settings, trying to find the right setting. He feels he is unable to fall asleep because he is having apnea while awake. He was dx'd previously with modified scoring, using 3% desats, rather than the standard 4%. Patient shares that his health is poor and he is very concerned about his condition. Orders tonight: CPAP with O2. We start on 5 cm H2O with 2 lpm O2 bleed-in using a medium ResMed AirFit FFM. I tried him through 7 cm H2O, looking best on 5 cm H2O with 2 lpm O2. Post-arousal CAs were seen on 7 cm H2O. Sleep efficiency looks good. He tolerated testing well with reasonable mask fit.

CPAP start time: 09:15:31 PM

CPAP end time: 06:02:36 AM

Time	Total	Supine	Side	Prone	Upright
Recording (TRT)	8h 47.0m	1h 15.0m	7h 31.5m	0h 0.0m	0h 0.5m
Sleep (TST)	7h 47.0m	1h 10.0m	6h 37.0m	0h 0.0m	0h 0.0m

Latency	N1	N2	N3	REM	Onset	Per. Slp.	Eff.
Actual	0h 28.5m	0h 34.5m	0h 54.0m	2h 16.0m	0h 28.5m	0h 32.0m	88.61%

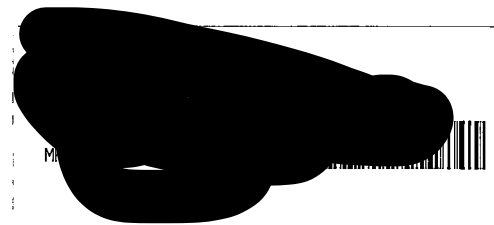
Stg Dur	Wake	N1	N2	N3	REM
Total	60.0	39.5	356.5	35.0	36.0
Supine	5.0	0.0	51.5	11.0	7.5
Side	54.5	39.5	305.0	24.0	28.5
Prone	0.0	0.0	0.0	0.0	0.0
Upright	0.5	0.0	0.0	0.0	0.0

Stg %	Wake	N1	N2	N3	REM
Total	11.4	8.5	76.3	7.5	7.7
Supine	0.9	0.0	11.0	2.4	1.6
Side	10.3	8.5	65.3	5.1	6.1
Prone	0.0	0.0	0.0	0.0	0.0
Upright	0.1	0.0	0.0	0.0	0.0

Hypopnea Summary		Sub	Supine	Side	Prone	Upright
Total	9	Total	9	1	8	0
		REM	0	0	0	0
		NREM	9	1	8	0

4% Hypopnea Summary		Sub	Supine	Side	Prone	Upright
Total (4%)	6	Total	6	0	6	0
		REM	0	0	0	0
		NREM	6	0	6	0

Apnea Summary			Sub	Supine	Side	Prone	Upright
Total	1	Total	1	0	1	0	0
		REM	0	0	0	0	0
		NREM	1	0	1	0	0
Obs	0	REM	0	0	0	0	0
		NREM	0	0	0	0	0
Mix	0	REM	0	0	0	0	0
		NREM	0	0	0	0	0
Cen	1	REM	0	0	0	0	0
		NREM	1	0	1	0	0
Rera Summary			Sub	Supine	Side	Prone	Upright
Total	0	Total	0	0	0	0	0
		REM	0	0	0	0	0
		NREM	0	0	0	0	0



<u>AHI</u>		Total	Obs	Mix	Cen
1.28	Apnea	0.13	0.00	0.00	0.13
	Hypopnea	1.16	--	--	--
0.90	Hypopnea (4%)	0.77	--	--	--

	Total	Supine	Side	Prone	Upright
<u>Position AHI</u>	1.28	0.86	1.36	0.00	0.00
<u>REM AHI</u>	0.00				
<u>NREM AHI</u>	1.39				
<u>Position RDI</u>	1.28	0.86	1.36	0.00	0.00
<u>REM RDI</u>	0.00				
<u>NREM RDI</u>	1.39				

4% Hypopnea	Total	Supine	Side	Prone	Upright
<u>Position AHI (4%)</u>	0.90	0.00	1.06	0.00	0.00
<u>REM AHI (4%)</u>	0.00				
<u>NREM AHI (4%)</u>	0.97				
<u>Position RDI (4%)</u>	0.90	0.00	1.06	0.00	0.00
<u>REM RDI (4%)</u>	0.00				
<u>NREM RDI (4%)</u>	0.97				

Desaturation Information

	<100%	<90%	<80%	<70%	<60%	<50%	<40%
Supine	1	0	0	0	0	0	0
Side	13	0	0	0	0	0	0
Prone	0	0	0	0	0	0	0
Upright	0	0	0	0	0	0	0
Total	14	0	0	0	0	0	0

Desaturation threshold setting: 4%
Minimum desaturation setting: 6 seconds
SaO2 nadir: 67%

The longest event was a 31 sec obstructive Hypopnea with a minimum SaO2 of 95%.

The lowest SaO2 was 90% associated with a 23 sec obstructive Hypopnea.

EKG Rates

<u>EKG</u>	Avg	Max	Min
Awake	59	92	48
Asleep	52	75	39

EKG Events: N/A

Awakening/Arousal Information

of Awakenings 18
Wake after sleep onset 31.5m
Wake after persistent sleep 29.0m

<u>Arousal Assoc.</u>	Arousals	Index
Apneas	0	0.0
Hypopneas	2	0.3
Leg Movements	7	0.9
Snore	0.0	0.0
PTT Arousals	0	0.0
Spontaneous	40	5.1
Total	48	6.2

Leg Movement Information

<u>PLMS</u>	LMS	Index
Total LMs during PLMS	4	0.5
LMS w/ Microarousals	1	0.1

<u>LM</u>	LMS	Index
w/ Microarousal	6	0.8
w/ Awakening	27	3.5
w/ Resp Event	2	0.3
Spontaneous	50	6.4
Total	58	7.5

GARRETT, NOAH
AM3017169420 PRE CLI
04/09/25 2030 Heacock, Thomas Theodore
PCP: NO PRIMARY OR FAMILY PHYSICIAN
DOB: 11/06/01 23 M
MR# AM00762202

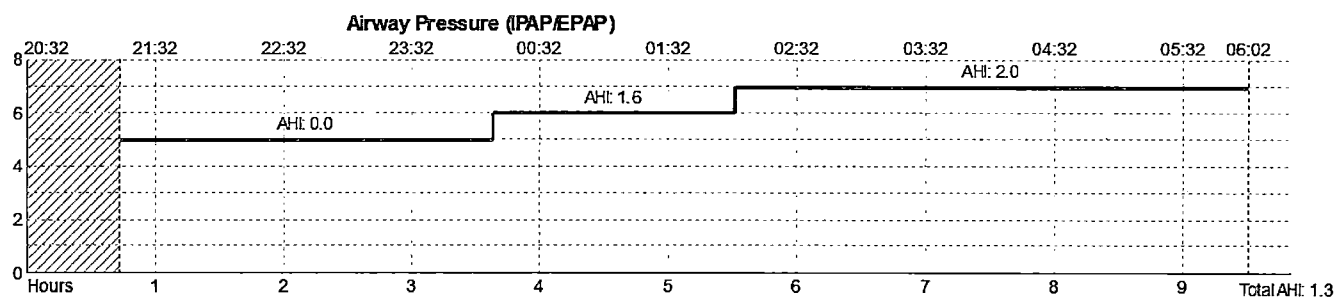


General Information

Name: Garrett, Noah
ID: AM00762202
Sex: Male
Age: 23 [11/6/2001]

BMI: 21
Height: 75 in
Weight: 171 lb
Date: 4/9/2025

Physician: Sarah Pfeiffer, PA
Technician: Shanahan, Debra
Record: xnrdnese4d6u6dg
Scorer: Robert Turner



Pressure	IPAP/EPAP	00	05	06	07
	O2 Vol	0.0	2.0	2.0	2.0
Time	TRT	0.0m	174.5m	113.0m	239.5m
	TST	0.0m	143.0m	112.5m	211.5m
Sleep Stage	% Wake	0.0	2.1	0.4	11.7
	% REM	0.0	5.9	7.6	9.0
	% N1	0.0	4.9	1.8	14.4
	% N2	0.0	65.7	89.3	76.6
	% N3	0.0	23.4	1.3	0.0
Respiratory	Total Events	0	0	3	7
	Obs. Apn.	0	0	0	0
	Mixed Apn.	0	0	0	0
	Cen. Apn.	0	0	1	0
	Hypopneas	0	0	2	7
	AHI	0.00	0.00	1.60	1.99
	REM Supine AHI	0.0	0.0	0.0	0.0
	Supine AHI	0.00	0.00	1.43	0.00
Respiratory (4%)	Non Supine AHI	0.00	0.00	1.70	2.02
	Hypopneas (4%)	0.00	0.00	1.00	5.00
	AHI (4%)	0.00	0.00	1.07	1.42
	REM Supine AHI (4%)	0.0	0.0	0.0	0.0
	Supine AHI (4%)	0.00	0.00	0.00	0.00
Desat Profile	Non Supine AHI (4%)	0.00	0.00	1.70	1.44
	<= 88%	0.0m	0.0m	0.0m	0.0 m
Arousal Index	<= 80%	0.0m	0.0m	0.0m	0.0 m
	Total	0.0	5.0	6.9	6.8

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