

Patient #4

Section #1

Sleep Studies

Original / diagnostic study

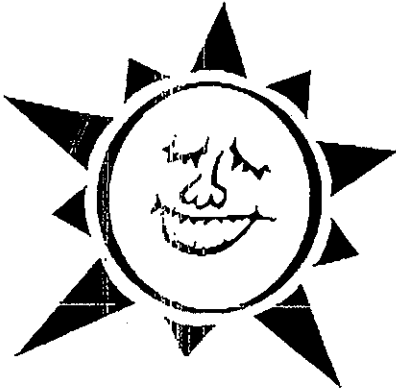
Titration study

Original Study



[Redacted]

[Redacted]



SLEEP DISORDERS CENTER

[Redacted]

FAX MEMO

Attn: [Redacted]

TO: [Redacted]

FROM: [Redacted]

SUBJECT: [Redacted] S/S

DATE: 09-06-07

NUMBER OF PAGES INCLUDING COVER SHEET: 4

COMMENTS:

FAXED

SEP 08 2007

Thanks and have a great day!!

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FAX:bs



BASELINE SLEEP STUDY/PRE CPAP



Patient Name: [REDACTED]

Study Date: Monday, January 22, 2001

Monday, January 22, 2001

Demographics

| | | |
|--------------------|-------------------|-------------------------------|
| Pl. #: SMC-00-0010 | Age: 44 | Referred By: [REDACTED] |
| NPSG Type: R/O OSA | Sex: Male | Interpt Physician: [REDACTED] |
| Ht-IN: 70 CM: 178 | Wt-LB: 215 KG: 98 | Tested By: [REDACTED] |

Sleep Summary

| | Minutes | Percent | | Minutes |
|------------------|---------|---------|--------------------|---------|
| Time In Bed: | 197.0 | | Sleep Latency | 9.0 |
| Total Sleep Time | 154.0 | | Latency to Stage 2 | 11.0 |
| Sleep Efficiency | | 78 | Latency to REM | 113.5 |
| Wakefulness | 43.0 | 22 | Number of Arousals | --- |
| Stage 1 | 54.0 | 35 | | |
| Stage 2 | 63.5 | 41 | | |
| Stage SW | 15.5 | 10 | | |
| Stage REM | 21.0 | 14 | | |

Myoclonus

| | Count | Index |
|-------------------------|-------|-------|
| Myoclonus | --- | --- |
| Myoclonus, with Arousal | --- | --- |
| Myoclonus, with Wake | --- | --- |

Respiration Events

| | Total | REM | | | NREM | | |
|--------------------------|-------|--------|------------|---------------|--------|------------|---------------|
| | | Supine | Non Supine | Ave. Duration | Supine | Non Supine | Ave. Duration |
| No. of Obstructive Apnea | 45 | --- | --- | --- | 45 | 1 | 22.0 |
| No. of Central Apnea | 1 | --- | --- | --- | 1 | --- | 20.0 |
| No. of Mixed Apnea | --- | --- | --- | --- | --- | --- | --- |
| No. of Hypopnea | 71 | --- | 6 | 28.0 | 24 | 41 | 21.0 |

Respiration Summary

| Supine Apnea Index | Supine RDI | Apnea Index | RDI Index |
|--------------------|----------------------|-------------|-------------|
| 61.3 | 63.3 | 18.3 | 46.0 |
| O2 Saturation | | | |
| Awake | Average During Sleep | Lowest REM | Lowest NREM |
| 98.0% | 93.0% | 93.0% | 86.0% |

Report Parameters: From Epoch 1 To Epoch 400

Technologist Comments

SCORED BY [REDACTED] RPSGT MR#, 46-52-51 CASE 10206329
 PT TOOK ASTELIN NASAL SPRAY AT BEGINNING OF CPAP TRIAL DUE TO NASAL CONGESTION. PATIENT DIDN'T TOLERATE NASAL MASK AFTER THIS DUE TO INABILITY TO BREATHE THROUGH NOSE. TOLERATED FULL FACE MASK WELL.

[REDACTED]

PATIENT: [REDACTED] TEST DATE: 1/22/01 DATE TYPED: 1/31/01

REFERRING M.D.: [REDACTED]

INTERPRETED BY: [REDACTED]

The patient underwent comprehensive polysomnographic study consisting of measurements of EOG, EMG, EEG, nasal and oral air flow, oxygen saturation, EKG, thoracic and abdominal wall movements and bilateral anterior tibialis EMG.

The total time in bed during the first portion of the sleep study was 197 minutes of which 154 minutes were spent asleep, yielding a sleep efficiency of 78 %.

Sleep architecture was fragmented as REM sleep time was reduced, while Stage 1 encompassed 1/3 of all sleep time. The latencies to sleep, Stage 2 and to REM were all within normal limits. Loud snoring was heard when the patient slept in both the lateral and supine positions. There were a large number of obstructive apneas and hypopneas, the frequency of which increased when the patient slept supine. The apnea index was 18, the RDI was 46 and the supine RDI was 93. The average oxygen saturation during sleep was 93% and there were repetitive, saw-tooth pattern oxygen desaturations, occasionally to as low as 86%.

Nasal CPAP was utilized during the second portion of the sleep study incorporating pressures of 5-9cm. Nine(9)cm.of pressure improved the sleep efficiency from 78 to 87%, decreased Stage 1 sleep time from 35 to 14% and reduced the RDI from 46 to 3, while maintaining satisfactory oxygenation. CPAP toleration was rated as good.

IMPRESSION: There is evidence of a moderately severe obstructive sleep apnea syndrome, the magnitude of which worsens further when the patient sleeps supine. Utilization of a nasal CPAP device incorporating 9cm.of pressure obliterates virtually all abnormal respiratory abnormalities of sleep, resulting in improved sleep consolidation and maintenance of satisfactory oxygenation. CPAP toleration was rated as good.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

FAXED
AUG 29 2007

46-52-41 10206329

POLYSOMNOGRAPHY REPORT
SS.KANE.MK:jaz

Titration study 4/22/2008

Titration Study

Sleep Study

[REDACTED] - SLMC-00465251

Result Type: Sleep Study
Result Date: April 22, 2008 07:52
Result Status: Auth
Performed By: [REDACTED] on April 22, 2008 07:52
Encounter info: [REDACTED], Outpatient Services, 4/22/2008 - 4/23/2008

SPECIALTY CODE: 045
VISIT DATE: 04/22/2008

SLEEP STUDY INTERPRETATION

The patient underwent an oral appliance titration study with the first portion of the study utilizing the patient's current oral appliance. Further adjustments were made 3 times with each setting representing 3 additional turns of the device, causing further mandibular advancement. The patient slept in the right lateral position for the baseline portion of the study, as well as for the second and third positional advancements while sleeping supine for the first level of additional advancement. Sleep appeared to be fragmented at baseline and again at the level 3 adjustment. REM sleep emerged with levels 2 and 3, but no supine REM was observed. The study was limited by the emergence of snoring, as well as mouth breathing. The apnea-hypopnea index was lowest at baseline (AHI equals 1.4). The AHIs increased at level 1 adjustment to 9.9, at level 2 adjustment to 42 and at level 3 adjustment to 8.6. The arousal indices were markedly elevated with all levels, ranging from 19 at level 1 to 40 at level 3. Oxygen saturations remained at 90-94% throughout the study.

IMPRESSION:

Obstructive sleep apnea appeared minimized at baseline but at the expense of significant sleep fragmentation and without observed REM or supine sleep. This patient may benefit from further oral appliance adjustment or consideration of alternative treatments. Clinical correlation is advised.

Electronically Signed

[REDACTED] 05/02/2008
08:15

Dictating Provider
[REDACTED]

MNK/LDP (001208501)
d. 04/25/2008 12:53 P
t. 04/26/2008 7:52 A
Document #: 3696200

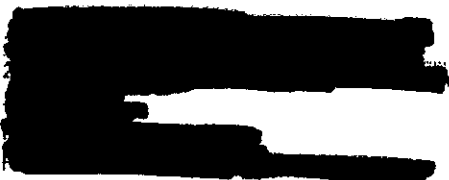
copies:

Physician Not On Staff, NOS
[REDACTED]

copies to: [REDACTED] *

Printed by: [REDACTED]
Printed on: 11/6/2008 10:36

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(Continued)



Patient Name [Redacted]
Study Date 4/22/2008
Report Date/Time 4/23/2008 2:15:12 PM
Score Set Tag [Redacted]

TITRATION REPORT

Report Parameters From Epoch 1 To Epoch 844

| Demographics and Medical History | | | |
|----------------------------------|-----------|----------|------------------|
| Name | Age 51 | BMI 27.2 | InterptPhysician |
| | Ht-IN 71 | CM 180 | Referred By |
| | Wt-LB 195 | KG 88 | Tested By |
| | Sex Male | | Score By |

Indication for Study OSA

Oxygenation Summary

| Oximetry Statistics | | | | |
|--------------------------|------------|-------------|---------------|-------|
| SaO2, Mean Wake | 90 Percent | SaO2, Range | 89-98 Percent | |
| SaO2 Minimum | 89 Percent | SaO2 Mean | 94 Percent | |
| Oximetry Statistics | | Non-REM | REM | Total |
| SaO2, Mean Waks, Percent | | | | 90 |
| SaO2, Range, Percent | 90-98 | | 92-96 | 89-98 |
| SaO2, Mean, Percent | 94 | | 94 | 94 |
| SaO2 Intervals | | | | |
| Percent Sleep Time | 100.0 | --- | --- | --- |

FORAN, K RPSGT

Scored by: [Redacted]

Titration with dental appliance. Technician went in x 3 to have patient adjust device for snoring, apneas and hypopneas. Frequent arousals seen, some appear to be sontaneous and others due to RERAs.

Dental
CPAP/BIPAP TITRATION

See individual levels on TREATMENT INTERVAL REPORT for complete statistics.

ADM: [Redacted] M 61Y REG: 04/22/08
none
FIN: 21334004



Patient Name: [REDACTED]
 Study Date: [REDACTED] 4/22/2008
 Report Date/Time: 4/24/2008 10:20:27 AM
 Score Set Tag [REDACTED]

Treatment Interval Report (Preliminary)

Report Parameters: From Epoch 1 To Epoch 844

Demographic Summary

Name: [REDACTED] Age: 51
 Tag: [REDACTED] HI-IN: 71 CM: 180
 Pl. #: 00465251 WT-LB: 195 KG: 88
 Study ID: 368 Score Set: 1264 Sex: Male
 Bed: 4 Race: Caucasian
 Occupation: MEDICAL TECH

Interpret Physician: [REDACTED]
 Referred By: [REDACTED]
 Tested By: [REDACTED]
 Scored By: [REDACTED]

Interval Statistics

Treatment Parameters and Results

| Rx Interval | Time in Bed | TST | Sleep Effic. | Stage 1 | | Stage 2 | | Stage SW | | Stage REM | | Obs. Ap. | | Cen. Ap. | | Mix. Ap. | | Hypopneas | | Apnea | | AHI | Mean SaO2 | PLMS Arous | PLMS Index | RERA | Total Arous |
|-------------|-------------|-------|--------------|---------|------|---------|------|----------|------|-----------|------|----------|----|----------|---|----------|---|-----------|---|-------|------|-----|-----------|------------|------------|------|-------------|
| | | | | Min | %TST | Min | %TST | Min | %TST | Min | %TST | REM | N | REM | N | REM | N | REM | N | REM | N | | | | | | |
| 000 | 160.5 | 125.0 | 77.9 | 20.0 | 16.0 | 86.5 | 69.2 | 18.5 | 14.8 | 0.0 | 0.0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.4 | 94 | 0.0 | 0.0 | 5.8 | 28.8 |
| 001 | 64.5 | 42.5 | 65.9 | 7.0 | 16.5 | 34.0 | 80.0 | 1.5 | 3.5 | 0.0 | 0.0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9.9 | 92 | 0.0 | 0.0 | 5.6 | 19.8 | |
| 002 | 85.5 | 61.5 | 71.9 | 6.5 | 10.6 | 45.5 | 74.0 | 0.0 | 0.0 | 9.5 | 15.4 | 3 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27.3 | 94 | 0.0 | 0.0 | 10.7 | 30.2 | |
| 003 | 105.5 | 70.0 | 66.4 | 23.0 | 32.9 | 45.0 | 64.3 | 0.0 | 0.0 | 2.0 | 2.9 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.0 | 94 | 0.0 | 0.0 | 15.4 | 40.3 | |

Indicates each time tech went in - 3 turns each time total 9 turns.

ADM: [REDACTED] M 51Y REG: 04/22/08 none
 FIN: 21334004

00465251

04/22/08 23:09:00

04/24/2008 10:25

414-385-1031

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