Finding The Right Stuff

Necessary documentation to qualify a patient for PAP therapy

The Basics of Sleep Apnea

Types of Apnea:

- Obstructive sleep apnea (OSA) is a sleep-related breathing disorder that involves a decrease or complete halt in airflow despite an ongoing effort to breathe
- Central sleep apnea (CSA) is a sleep-related breathing disorder when both airflow and respiratory effort cease. (This cessation of breathing results from a loss of the autonomic drive to breathe.)
- Mixed sleep apnea occurs when an initial central component followed by an obstructive component causes a cessation of breathing
- Complex sleep apnea (CompSA) is a form of sleep apnea in which central apneas persist or emerge during attempts to treat obstructive events with a continuous positive airway pressure (CPAP) or bilevel device

Useful Definitions

- Apnea: The cessation of airflow for at least 10 seconds
- Hypopnea: An abnormal respiratory event lasting at least 10 seconds, with at least a 30% reduction in thoraco-abdominal movement or airflow as compared to baseline, and with at least a 4% decrease in oxygen saturation.
- Apnea-Hypopnea Index (AHI): The average number of episodes of apnea and hypopnea per hour of sleep.
- Respiratory Disturbance Index (RDI): SAME THING!

Calculating AHI/RDI

- Done by Sleep Lab personnel who is 'scoring' the study
- Take the TOTAL SLEEP TIME in minutes/60 to get hours of sleep time
- Count all apneas and hypopneas, divide by number of hours of sleep time

Example: Mr. Smith sleeps for a total of 340 minutes during his sleep study and had 52 apneas and 47 hypopneas.

340/60 = 5.67 hours sleep

52 apneas + 47 hypopneas = 99 events

99 events/5.67 hours = AHI/RDI: 17.5

Does the patient qualify for a CPAP per Medicare guidelines??

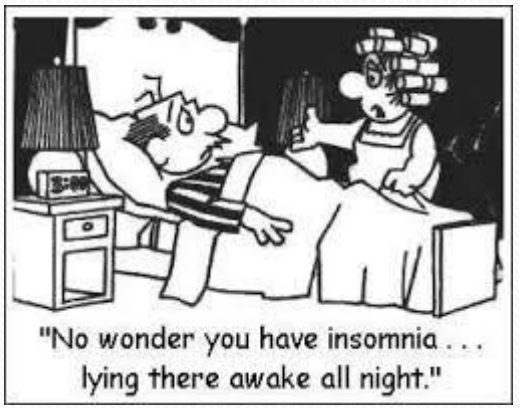
"I'm the Apnea Fairy. I have orders to give you a wake up call at 10:30, 10:47, 10:53, 11:02, 11:17, 11:26..."

PAP Qualification

Step-by-Step

The Face-to-Face

- The patient has a face-to-face clinical evaluation by the treating physician PRIOR TO the sleep test to assess the patient for obstructive sleep apnea
- Obtain History and Physical from ordering physician
- May include:
  - Questions focused on sleep habits
  - Information from bed partner
  - Signs and Symptoms



The Face-to-Face

- Signs/Symptoms of Obstructive Sleep Apnea:
  - Witnessed apnea
  - Snoring
  - Gasping/Choking during sleep
  - Frequent awakening during night
  - Sleep walking
  - Daytime Sleepiness
  - Headaches
  - Obesity

Face-to-Face

Sleep Questionnaires are VERY valuable to quantify potential Sleep Apnea

- Types:
  - Epworth Sleepiness Scale (most common)
    - 8 questions/Score > 10 indicates probability of OSA
  - Berlin Questionnaire
    - 10 questions/2 or more categories where score positive indicates probability of OSA
  - STOP Bang
    - 8 questions/ a 'yes' on 3 or more questions indicates probability of OSA

The Sleep Study

The Sleep Study

Types of Sleep Studies:

- Diagnostic
- Treatment
- Split Night
- Home Sleep Study (HST)

Diagnostic Sleep Study

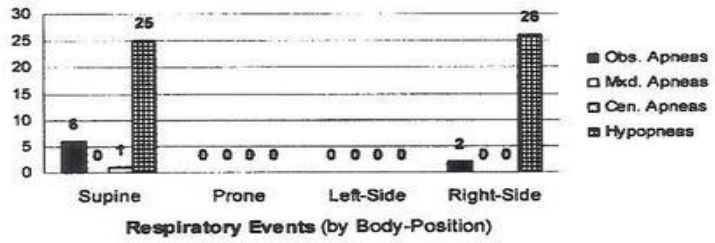
- After the face-to-face is performed by the physician, the diagnostic study is performed to determine if the patient has sleep apnea
- The Diagnostic Sleep Study or Polysomnogram (PSG) is the first sleep study performed to diagnose sleep apnea
- No PAP device used during this study
- Paperwork received from the referral will be titled "Diagnostic Sleep Study", "Initial Sleep Study", or "PSG"
- This sleep study QUALIFIES the patient via the AHI or RDI

Example of PSG Report

COMPLETE POLYSOMNOGRAPHY REPORT

Patient Name: • Study Date: 9/8/2006

RESPIRATORY EVENTS (by Body-Position)	Duration (hrs:min:sec)	Obs. Apneas Count	Obs. Apneas Index	Mxd. Apneas Count	Mxd. Apneas Index	Cen. Apneas Count	Cen. Apneas Index	Hypopneas Count	Hypopneas Index	TOTAL Events Count	TOTAL Events Index
Supine sleep:	1:28:04	6	4.1	0	0.0	1	0.7	25	17.0	32	21.8
Prone sleep:	0:00:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Left-Side sleep:	0:00:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right-Side sleep:	1:56:00	2	1.0	0	0.0	0	0.0	26	13.4	28	14.5



Respiratory Events (by Body-Position)

RESPIRATORY SUMMARY	Count	Index
Apneas + Hypopneas (TST):	60	17.6
Respiratory Events (Non-REM):	48	14.9
Respiratory Events (REM):	12	65.1

RESPIRATORY AROUSALS	Count	Index
Total Sleep Time:	60	17.6
Non-REM:	48	14.9
REM:	12	65.1

NORMAL ADULT
<5

Treatment Sleep Study

- After the diagnostic sleep study is performed, and the patient is 'positive' for sleep apnea, the treatment (or second or titration) sleep study is performed to determine the PAP pressure needed to eliminate or reduce the apneas/hypopneas
- During this study, the sleep technician titrates the PAP pressures from a very low pressure of 4-5cmH20 to the treatment pressure
- Paperwork received from the referral will be titled "Treatment Sleep Study", "PAP Sleep Study", or "Titration Study"

Split Sleep Study

A split sleep study is when both the diagnostic PSG and a CPAP titration are done the same night

- Reasons:
  - If, during the first 2 hours of the PSG, the patient exhibits moderate to severe sleep apnea (high AHI/RDI), most sleep labs have an emergency protocol in place to automatically start the titration portion of the study
  - Some physicians order Split Studies on all their patients to alleviate the need for the patient to return to the sleep lab for a second night
  - Paperwork received from the referral will be titled “Split Night Study”
  - There will be two portions of the sleep report showing initial PSG information and treatment information

Example of Split Study Interpretation

Mr. B____, age 38, 6 ft. tall, 348 lbs., came to the Hospital Sleep Lab to diagnose or rule out obstructive sleep apnea. This polysomnogram consisted of overnight recording of left and right EOG, submental EMG, left and right anterior EMG, central and occipital EEG, EKG, airflow measurement, respiratory effort and pulse oximetry. The test was done without supplemental oxygen. His latency to sleep onset was slightly prolonged at 28.5 minutes. Sleep efficiency was normal at 89.3% (413.5 minutes sleep time out of 463 minutes in bed).

During the first 71 minutes of sleep Mr. B____ manifested 83 obstructive apneas, 3 central apneas, 1 mixed apnea and 28 hypopneas, for an elevated apnea+hypopnea index (AHI) of 97 events/hr (*"severe" OSA). His lowest SaO_2 during the pre-CPAP period was 72%. CPAP was then applied at 5 cm H_2O, and sequentially titrated to a final pressure of 17 cm H_2O. At this pressure his AHI was 4 events/hr. and the low SaO_2 had increased to 89%. This final titration level occurred while he was in REM sleep. Mask used was a Respironics Classic nasal (medium-size).

In summary, this split night study shows severe OSA in the pre-CPAP period, with definite improvement on high levels of CPAP. At 17 cm H_2O his AHI was normal at 4 events/hr. and low SaO_2 was 89%. Based on this split night study I recommend he start on nasal CPAP 17 cm H_2O along with heated humidity.

Home Sleep Study

- Performed unattended in patient's home using a portable monitoring device
- Only available for Diagnostic PSG testing to diagnose sleep apnea
- Results must still follow same qualifying guidelines as a lab sleep study
- If NO treatment/titration sleep study performed after the HST, all patients are ordered an AutoPAP (APAP) device

Qualifying for Different PAP Devices

Medicare Guidelines

Qualifying for a PAP Device

- Qualifications for CPAP (E0601):
  - The Apnea-Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) is greater than or equal to 15 events per hour with a minimum of 30 events
    - If the AHI or RDI is calculated on < 2 hours sleep, the total # of events used to calculate the AHI/RDI must be at least the number of events that would have been required in a 2 hr period (at least 30 events)

Qualifying for a PAP Device

- Qualifications for CPAP (con't)
  - 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, additional documentation is required
    - Necessary ADDITIONAL documentation of:
      - Excessive daytime sleepiness
      - Impaired cognition
      - Mood disorders
      - Insomnia
      - Hypertension
      - Ischemic heart disease
      - History of stroke

Qualifying for a PAP Device

Qualifications for an AutoPAP (E0601):

- Same as for a CPAP
- Will only receive the Diagnostic PSG study from the referral
- May be just a Home Sleep Study (HST)
- MUST still have the initial Face-to-Face notes from the physician indicating why the HST was ordered

Qualifying for a PAP Device

Qualifications for a BiPAP (E0470):

- In addition to ALL the same qualifications for a CPAP device, there are specific criteria that must be documented by the referral or sleep lab
  - A CPAP device has been tried and proven ineffective to treat the patient's sleep apnea either at the sleep lab or in the home setting
  - The physician must document both of the following issues were addressed PRIOR to changing the patient from a CPAP to a BiPAP due to ineffective therapy:

Qualifying for a PAP Device

- Interface fit and comfort. An appropriate mask was properly fit and the patient is using without difficulty--This mask will be used with the BiPAP

  AND

- The pressure setting of the CPAP prevents the patient from tolerating the therapy (pressure too high), and the lower pressure settings of the CPAP were tried but failed to either:
  - Adequately control the symptoms of OSA; or
  - Improve sleep quality; or
  - Reduce the AHI/RDI to acceptable levels

Qualifying for a PAP Device

Review of BiPAP Qualifications

- AHI/RDI acceptable
- Documentation that CPAP was tried and failed
  - Intolerance to high CPAP pressure, and BiPAP was used AND tolerated
  - Different masks were tried during CPAP trial, but failed, and the BiPAP trial was successful with a specific mask
  - In a nutshell:

The sleep lab must have tech notes (or the physician's interpretation) documenting the patient's failure to achieve goals of CPAP therapy, different masks were first tried on CPAP, but the patient could not tolerate the high pressures with any mask. Additional notes must show BiPAP was trialed, a proper mask was found to work with the BiPAP, and the patient tolerated both.

Qualifying for a PAP Device

Qualifications for a BiPAP S/T or AutoSV (E0471):

- A Medicare BiPAP S/T or AutoSV will **NEVER** be approved with a diagnosis of OSA
- Qualifying diagnoses for a BiPAP, BiPAP S/T or AutoSV:
  - Restrictive Thoracic Disorder
  - Severe COPD
  - Central Sleep Apnea or Complex Sleep Apnea
  - Hypoventilation Syndrome

Qualifying for a PAP Device

Restrictive Thoracic Disorder (either BiPAP, BiPAP S/T or AutoSV):

- Diagnosis of a neuromuscular disorder such as ALS, severe thoracic cage abnormality (scoliosis/kyphosis); AND
  - An arterial blood gas $PaCO_2$, done while awake and on the patient's normal FiO_2 (be it room air or oxygen) is $\geq$ 45 mmHg;
  - OR overnight pulse oximetry data shows 5 minutes or more of saturations $\leq$ 88% on patient's normal FiO_2 (be it room air or oxygen);
  - OR (for a neuromuscular disorder), the maximal inspiratory pressure is < 60 cmH_2O or forced vital capacity is < 50% predicted---*this information can be found on a Pulmonary Function Test done at the physician's office or a hospital*
  - AND physician documentation that COPD does not contribute significantly to the patient's condition

Qualifying for a PAP Device

Severe COPD (BiPAP only):

- An arterial blood gas $PaCO_2$, done while awake and on the patient's normal FiO_2 (be it room air or oxygen) is $\geq$ 53 mmHg;
- AND overnight pulse oximetry data shows 5 minutes or more of saturations $\leq$ 88% on patient's normal FiO_2 (be it room air or oxygen);
- AND physician documentation that OSA and treatment with CPAP has been considered and ruled out

Qualifying for a PAP Device

Severe COPD (BiPAP S/T or AutoSV):

- If a patient qualified for a BiPAP, and a BiPAP S/T or AutoSV was started any time after a period of initial use of the BiPAP, the patient can qualify for the upgrade with:
  - A $PaCO_2$, done while awake and on normal FiO_2, shows the patient's $PaCO_2$ worsens $\geq$ 7 mmHg compared to the original result from the first $PaCO_2$ obtained to qualify the patient for a BiPAP
  - A facility-based PSG shows oxygen saturation $\leq$ 88% for $\geq$ 5 minutes while using a BiPAP, and have < 5 obstructive events (apneas/hypopneas)

  OR

Qualifying for a PAP Device

Severe COPD (BiPAP S/T or AutoSV) con't:

- A COPD patient qualified for a BiPAP, and after using for at least 61 days, both of these criteria are met:
  - An arterial blood gas $PaCO_2$ is done while awake and on patient's normal FiO_2, and still remains $\geq$ 52 mmHg

  AND

  - Overnight oximetry, while breathing with the BiPAP and prescribed FiO_2, demonstrates oxygen saturation $\leq$ 88% for 5 minutes or more

Qualifying for a PAP Device

Central Sleep Apnea (CSA) or Complex Sleep Apnea (CompSA):

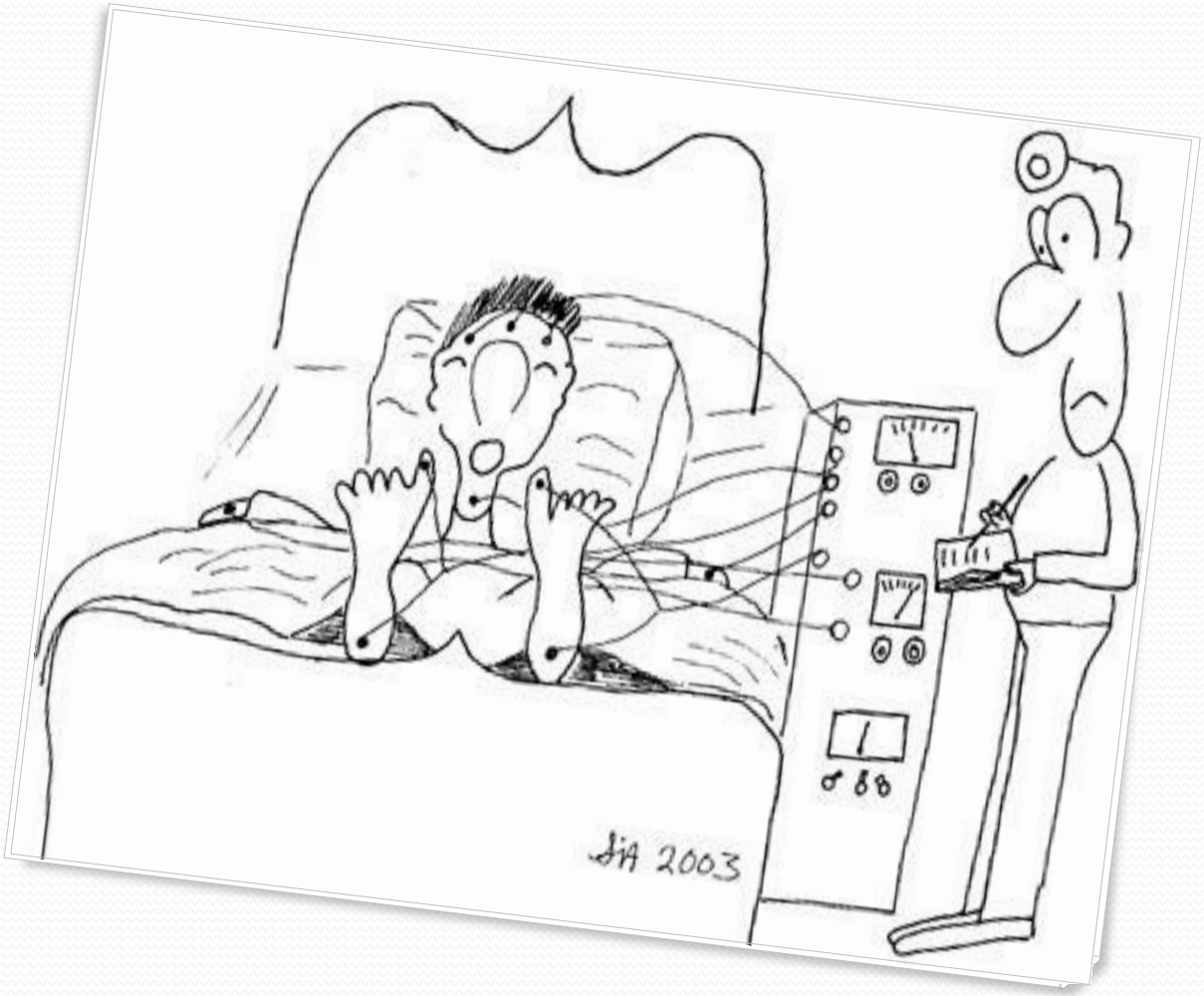
- A complete facility-based PSG must be performed documenting the following:
  - The diagnosis of CSA or CompSA
    - Definition of CSA:
      - AHI/RDI ≥ 5, and
      - Central apneas/hypopneas > 50% of the total apneas/hypopneas, and
      - Central apneas or hypopneas > 5 times per hour, and
      - Symptoms of either excessive sleepiness or disrupted sleep

Qualifying for a PAP Device

- Definition of CompSA:
  - Form of central apnea specifically identified by the persistence or emergence of central apneas or hypopneas upon exposure to CPAP or BiPAP when the obstructive events have disappeared
- Significant improvement of sleep-associated hypoventilation with the use of a BiPAP, BiPAP S/T, or AutoSV on settings that will be prescribed for the patient's use

All must be thoroughly documented in sleep tech notes and/or physician interpretation of sleep study

Example: Mrs. Jones has a Diagnostic PSG, which shows OSA. She returns to the sleep lab for her titration study. During her titration study, the tech starts increasing the CPAP pressures to alleviate the apneas, and as the pressures are increased, her obstructive apneas are reduced. However, the tech then starts seeing central events on the monitor. The tech then switches to BiPAP, but the central events continue. The tech then switches to autoSV mode, which automatically compensates for the central events, and all apneas are now controlled.



Qualifying for a PAP Device

Hypoventilation Syndrome (BiPAP):

- An initial arterial blood gas $PaCO_2$, done while awake and breathing the patient's prescribed FiO_2, is $\geq$ 45 mmHg; **AND**
- Spirometry (PFT) shows FEV1/FVC $\geq$ 70% and an FEV1 $\geq$ 50% of predicted

WITH EITHER:

- Another arterial blood gas $PaCO_2$, done during sleep or immediately upon awakening, and breathing the patient's prescribed FiO_2, shows the patient's $PaCO_2$ worsened by $\geq$ 7 mmHg compared to the original result (first bullet point); **OR**
- A facility-based PSG demonstrates oxygen saturation $\leq$ 88% for $\geq$ 5 minutes that is not caused by OSA events (AHI/RDI must be < 5)

Qualifying for a PAP Device

Hypoventilation Syndrome (BiPAP S/T or Auto SV):

- A covered BiPAP is being used; **AND**
- Spirometry (PFT) shows FEV1/FVC ≥ 70% and an FEV1 ≥ 50% of predicted

AND EITHER:

- Another arterial blood gas $PaCO_2$, done during sleep or immediately upon awakening, and breathing the patient's prescribed FiO_2, shows the patient's $PaCO_2$ worsened by ≥ 7 mmHg compared to the original result when patient first tested for the BiPAP unit; **OR**
- A facility-based PSG demonstrates oxygen saturation ≤ 88% for ≥ 5 minutes that is not caused by OSA events (AHI/RDI must be < 5)

Confused Yet?

When dealing with patients for BiPAP S/T or Auto SV, with one of the previous diagnoses, consult with your Team Leader

Supervisor

Manager

It All Comes Down To One Thing

Documentation

Documentation

Documentation

Review of the Common Orders

OSA CPAP

OSA BiPAP

CSA BiPAP, BiPAP S/T, AutoSV

CPAP

- Face-to-Face notes indicating why physician is sending patient for initial PSG
- Qualifying PSG results
  - AHI/RDI 5-14; need secondary diagnosis

  OR
  - AHI/RDI > 15; patient qualifies for CPAP or APAP
  - Titration studies to document OSA was corrected with PAP are helpful if available

APAP

- Face-to-Face notes indicating why physician is sending patient for initial PSG or HST
- Qualifying PSG/HST results
  - AHI/RDI 5-14; need secondary diagnosis

  OR
  - AHI/RDI > 15; patient qualifies for APAP
  - No titration study required
    - If one performed, obtain results

BIPAP

- Same data as CPAP
- Documentation on sleep study or physician interpretation indicating:
  - CPAP tried and failed
    - Patient intolerance to pressure
    - AHI/RDI reduced to acceptable levels
  - Different masks were tried
  - BiPAP, with correct mask, successful

BiPAP, BiPAP S/T, AutoSV for CSA

- Same as CPAP
- Central apneas were ≥ 50% of all apneas/hypopneas, and
- Central apneas or hypopneas > 5 times per hour, and
- Symptoms of either excessive sleepiness or disrupted sleep
- Number of central apneas/hypopneas can be found on raw data from sleep study

Thank you

Questions??