SLEEP MEDICINE PEARLS

When using two patient identifiers is not enough with CPAP therapy

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A 73-year old man with severe obstructive sleep apnea contacted his sleep provider with recent difficulty using continuous positive airway pressure (CPAP) therapy. He was diagnosed with obstructive sleep apnea several years prior, apnea-hypopnea index was 44 events/h, and was treated with auto-CPAP 6–10 cm H_2O. He was seen on a yearly basis with excellent adherence, low residual apnea-hypopnea index (less than 1 event/h) and good self-reported benefits.

He called our sleep clinic complaining of a dry mouth, not feeling rested and feeling tired. Download was checked remotely and showed nightly use with low apnea-hypopnea index. Patient was subsequently seen in the clinic due to ongoing complaints. Remote download showed almost nightly use (**Figure 1**), which was in contrast to the patient's reported lower use. Two patient identifiers (name and date of birth) were verified on the remote download.

> **QUESTION: What is the reason for the discrepancy in patient's reported CPAP use and difficulties and the information obtained from the download?**

Figure 1—CPAP download obtained remotely from the cloud using the patient's name and date of birth.

| Usage days	27/30 days (90%)
>= 4 hours	27 days (90%)
< 4 hours	0 days (0%)
Usage hours	213 hours 13 minutes
Average usage (total days)	7 hours 6 minutes
Average usage (days used)	7 hours 54 minutes
Median usage (days used)	7 hours 38 minutes
Total used hours (value since last reset - 04/03/2019)	3,548 hours

AirSense 10 AutoSet

Serial number	
Mode	AutoSet
Min Pressure	6 cmH2O
Max Pressure	10 cmH2O
EPR	Fulltime
EPR level	2
Response	Standard

Therapy

Pressure - cmH2O	Median:	9.4	95th percentile:	9.9	Maximum:	9.9
Leaks - L/min	Median:	14.5	95th percentile:	31.8	Maximum:	43.0
Events per hour	AI:	0.3	HI:	0.3	AHI:	0.6
Apnea Index	Central:	0.0	Obstructive:	0.2	Unknown:	0.0
RERA Index						0.4
Cheyne-Stokes respiration (average duration per night)						0 minutes (0%)

Usage - hours
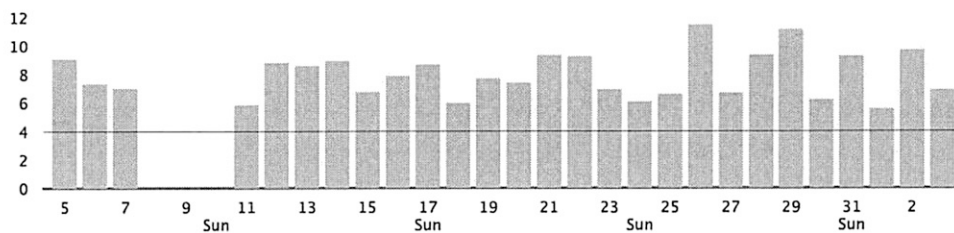
AHI = apnea-hypopnea index, AI = apnea index, EPR = expiratory pressure relief, HI = hypopnea index, Max = maximum, Min = minimum, RERA = respiratory-effort related arousal, Sun = Sunday.

ANSWER: The download obtained remotely from the cloud was not from the machine the patient was currently using.

DISCUSSION

During the visit the patient mentioned that his wife uses CPAP therapy. This led to the provider checking the settings directly on the machine that the patient brought into the clinic, which

Figure 2—CPAP download obtained using the secure digital card from the patient's CPAP machine.

| Usage days	11/30 days (37%)
>= 4 hours	11 days (37%)
< 4 hours	0 days (0%)
Usage hours	74 hours 38 minutes
Average usage (total days)	2 hours 29 minutes
Average usage (days used)	6 hours 47 minutes
Median usage (days used)	6 hours 46 minutes
Total used hours (value since last reset - 04/03/2019)	2,618 hours

AirSense 10 AutoSet

Serial number	
Mode	CPAP
Set pressure	9 cmH2O
EPR	Off
EPR level	1

Therapy

Leaks - L/min	Median: **17.6**	95th percentile: **40.0**	Maximum: **55.3**
Events per hour	AI: **0.7**	HI: **0.3**	AHI: **1.0**
Apnea Index	Central: **0.2**	Obstructive: **0.1**	Unknown: **0.3**
RERA Index			**0.1**
Cheyne-Stokes respiration (average duration per night)			**0 minutes (0%)**

Usage - hours
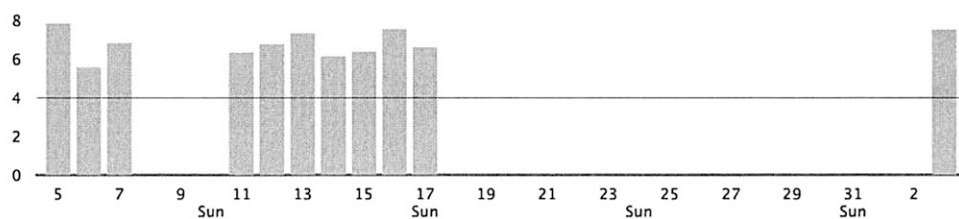
AHI = apnea-hypopnea index, CPAP = continuous positive airway pressure, EPR = expiratory pressure relief, AI = apnea index, HI = hypopnea index, Max = maximum, Min = minimum, RERA = respiratory-effort related arousal, Sun = Sunday.

showed a setting of CPAP 9 cm H_2O and with humidity setting of 3 (**Figure 2**). At that point it became apparent that the patient was using his wife's CPAP machine, and his wife was using his; both of which were the same model. The patient was counseled to write their names on the machines. A month later, he had another follow-up visit with the correct machine and correct settings of auto-CPAP 6–10 cm H_2O and humidity setting of 6. He reported sleeping well and feeling rested. He denied having dry mouth.

The remote download was identified as the patient's by verifying the name and date of birth. Accurate patient identification is one of the National Patient Safety Goals for 2019 as set by the Joint Commission.[1] Using health information technology can readily provide access to patient information. However, health information technology can be associated with patient identification errors.

The ability to remotely monitor CPAP adherence is becoming standard of care in the sleep field, and is used by sleep clinics, durable medical equipment companies, and CPAP manufacturers. This technology allows for direct feedback to the patient, which may improve adherence, early detection of struggling patients, as well as convenience.[2] However, if the

remote download does not match the patient's report, it is still best to interrogate the machine the patient is using.

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1. When checking patient's CPAP download, verifying 2 patient identifiers is mandatory.
2. As more patients use CPAP, their machines can get mixed up. If the download does not match the reported history, we recommend that patients bring in their machine to the clinic in order to check the settings on the actual machine that they are using.

CITATION

Begum J, Skiba V. When using two patient identifiers is not enough with CPAP therapy. *J Clin Sleep Med*. 2020;16(4):639–642.

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SUBMISSION & CORRESPONDENCE INFORMATION

DISCLOSURE STATEMENT

All authors have seen and approved the manuscript. Work was this study was performed at Henry Ford Health System. The authors report no conflicts of interest.