

Teaching NeuroImage: Non-24-Hour Sleep-Wake Rhythm Disorder

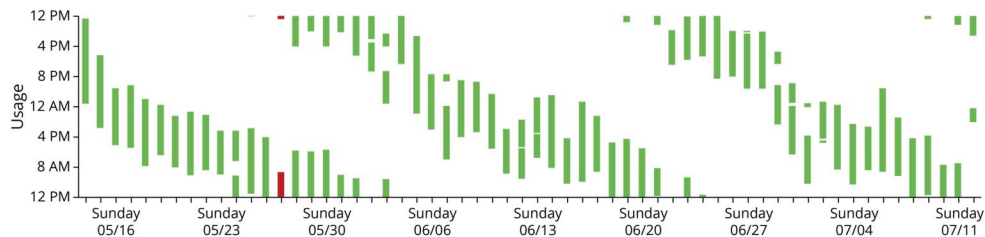
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Figure CPAP Adherence Report Demonstrating a Sleep Period That Begins Later Each Day



Each green bar represents 1 day of CPAP use with the top representing CPAP initiation, approximating sleep onset, and the bottom representing CPAP discontinuation, approximating end of sleep. The image produces a unique diagonal band appearance.

A 77-year-old woman with obstructive sleep apnea reported a lifelong difficulty with periods of severe nocturnal insomnia and daytime sleepiness. Wrist actigraphy, the diagnostic method of choice for circadian rhythm disorders, was not covered by insurance. A review of her CPAP data (Figure) demonstrated progressively later bedtimes with a period of greater than 24 hours, revealing the diagnosis of non-24-hour sleep-wake rhythm disorder. While common in unsighted individuals, non-24-hour sleep-wake rhythm disorder can occur in sighted people,^{1,2} as was the case here. For patients on PAP therapy, adherence data can provide evidence of circadian rhythm disorders.

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Name	Location	Contribution
Alan R. Tesson, MD	Department of Neurology, Duke University, Durham, NC	Drafting/revision of the manuscript for content, including medical writing for content, and analysis or interpretation of data
Mir Mustafa Ali, MD	Department of Neurology, Duke University, Durham, NC	Drafting/revision of the manuscript for content, including medical writing for content, and analysis or interpretation of data

Appendix (continued)

Name	Location	Contribution
Andrew Robert Spector, MD	Department of Neurology, Duke University, Durham, NC	Drafting/revision of the manuscript for content, including medical writing for content, and study concept or design

References

1. Malkani RG, Abbott SM, Reid KJ, Zee PC. Diagnostic and treatment challenges of sighted non-24-hour sleep-wake disorder. *J Clin Sleep Med.* 2018;14(04):603-613.
2. Hayakawa T, Uchiyama M, Kamei Y, et al. Clinical analyses of sighted patients with non-24-hour sleep-wake syndrome: a study of 57 consecutively diagnosed cases. *Sleep.* 2005;28(8):945-952.

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