

'Home' is where success—or failure—rests: Personal context directly affects CPAP use

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Marianne Matthias, PhD and Edward Miech, EdD are Regenstrief Institute research scientists. Credit: Regenstrief Institute

CPAP, short for continuous positive airway pressure, is the most commonly used therapy for obstructive sleep apnea and is prescribed to

millions. It is estimated that half of those prescribed CPAP find treatment adherence difficult despite untreated sleep apnea's association with daytime sleepiness, motor vehicle accidents and increased risk for cardiovascular diseases including stroke.

A new study of the challenges and burdens faced by CPAP users, conducted by [research scientists](#) from the Regenstrief Institute, Richard M. Roudebush Veterans Affairs Medical Center and IUPUI, reports that successful patient adherence to CPAP therapy requires new, personalized patterns of behavior incorporating physical, psychological and cognitive adaptations.

"Telling [patients](#) they should exercise more or go on a diet is not a prescription for success, and neither is just handing them a CPAP machine with basic use instructions," said Regenstrief Institute research scientist Edward Miech, EdD, who led the new study. "Simple actions, such as discussing the patient's specific concerns during the crucial initial period, can successfully introduce CPAP treatment and could increase the likelihood of successful adherence.

"Unlike taking a pill, personal context—especially in the home situation—can make an enormous difference in terms of how well individual patients adapt to CPAP after receiving a diagnosis of obstructive sleep apnea," he said. "Given the irritating, ongoing challenges associated with CPAP adherence, helping patients adapt the treatment to the specifics of where and how they live represents a major opportunity to improve CPAP adherence and improve [obstructive sleep apnea](#) outcomes." Dr. Miech is a health services researcher and an implementation scientist who assesses how interventions, implementation strategies and contexts work together to influence implementation success and sustainability.

The objective of the new study was to understand the processes that help

explain successful (and unsuccessful) CPAP therapy and to evaluate how and why external assistance and advice improved its use. Study staff talked in person with participants in their homes.

"It's essential to help individuals with sleep apnea use CPAP," said study co-author Regenstrief Institute research scientist Dawn Bravata, M.D.

"In a study we published in 2018 we found that for individuals who have had a stroke or a TIA—a Transient Ischemic Attack, also known as a mini-stroke—treatment of sleep apnea with CPAP provides significant benefits. But if patients don't use their CPAP machines because the mask doesn't fit right, the noise is bothersome or other reasons, patients with sleep apnea, aren't getting the treatment they need.

CPAP has been used as a sleep apnea therapy for many years, and it has an excellent safety record according to Dr. Bravata.

"Helping individuals use CPAP correctly is extremely important," said study co-author Regenstrief Institute research scientist Marianne Matthias, Ph.D. "There are many ways clinicians and others can assist, even telephone consultation. Opportunities exist when CPAP commences as well as at critical junctures when a patient is vacillating between being a user or a non-user as they fit the device into their home context. Extra support or a nudge could make a big difference."

"Adapting Continuous Positive Airway Pressure To Where Patients Live: A Comparative Case Study" is published in *Cureus*, an open access peer-reviewed medical journal.

More information: Edward J Miech et al. Adapting Continuous Positive Airway Pressure Therapy to Where Patients Live: A Comparative Case Study, *Cureus* (2019). [DOI: 10.7759/cureus.4078](https://doi.org/10.7759/cureus.4078)

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