

Experimental nasal spray for sleep apnea shows promising results

December 8 2022



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A drug in development for obstructive sleep apnea (OSA) has shown promising results, after researchers from Flinders University tested the treatment in people for the first time.

Designed to prevent the narrowing or collapse of the upper airways during sleep, a key factor in OSA, the treatment could prove to be a

potential alternative for certain people with OSA to [continuous positive airway pressure](#) (CPAP) machines, which can only be tolerated by about half of all OSA sufferers.

"While further rigorous clinical evaluation and testing is required, this is a great first step and should offer some hope to the many people worldwide who suffer from sleep apnea," says study senior author Professor Danny Eckeart, Director of Flinders' sleep lab FHMRI: Sleep Health.

"OSA is one of the most common sleep-related breathing disorders, with an estimated one billion sufferers, and when untreated is associated with major health and safety consequences. While CPAP machines are effective, tolerance remains a major issue for many and other treatments such as dental splints and upper airway surgery don't always work. This is why we need new treatment options for OSA.

"At the moment, there are no approved drug treatments for OSA. However, with advances in our understanding of the different reasons people get OSA, the potential for effective new medications is growing stronger each year."

Published in the journal *Chest*, the study tested the drug on 12 people with OSA using either nasal drops, a [nasal spray](#) or via direct application using an endoscope, versus a placebo.

Monitoring for sleep and airway activity across several sessions, the team found consistent and sustained improvements in the patients' airways staying open throughout sleep, compared to the placebo treatment, regardless of the delivery method used.

"Although a small study, our findings represent the first detailed investigation of this new treatment in people with OSA, with promising

results," says study lead author Dr. Amal Osman from FHMRI: Sleep Health.

"The drug we tested is designed to target specific receptors that are expressed on the surface of the upper airways, triggering them more easily to activate the surrounding muscles to keep the [airway](#) open during sleep. While there's still a long way to go in terms of clinical testing and development, our study shows targeting these receptors may be a promising avenue for future treatments."

More information: Amal M. Osman et al, Topical K⁺ channel blockage improves pharyngeal collapsibility: A translational, placebo-controlled trial, *Chest* (2022). [DOI: 10.1016/j.chest.2022.11.024](https://doi.org/10.1016/j.chest.2022.11.024)

Provided by Flinders University

Citation: Experimental nasal spray for sleep apnea shows promising results (2022, December 8) retrieved 23 June 2024 from <https://medicalxpress.com/news/2022-12-experimental-nasal-spray-apnea-results.html>

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