



Apnimed Announces Positive Topline Results in the First Landmark Phase 3 Clinical Trial of AD109, an Investigational Once-Daily Oral Pill for Obstructive Sleep Apnea

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- AD109 met the primary endpoint, mean change in apnea-hypopnea index (AHI, $p=0.001$) at 26 weeks, across a broad range of people with mild, moderate and severe obstructive sleep apnea
- Study participants treated with AD109 achieved a mean reduction in AHI of 55.6% from baseline and achieved significantly improved oxygenation and reduced disease severity
- AD109 is a first-in-class, anti-apneic neuromuscular modulator which targets the root cause of OSA by increasing upper airway muscle tone during sleep
- Apnimed expects topline results in Q3'25 from its second Phase 3 clinical trial, LunAIRo, and plans to submit an NDA to the U.S. FDA for AD109 by early 2026

CAMBRIDGE, Mass., May 19, 2025 – Apnimed, Inc., a pharmaceutical company building the industry-leading portfolio of first-in-class oral drug candidates that address the root causes of obstructive sleep apnea (OSA) and other sleep-related breathing diseases, today announced positive topline results from its pivotal Phase 3 SynAIRgy clinical trial evaluating the efficacy and safety of Apnimed's lead candidate AD109 (aroxybutynin 2.5mg/atomoxetine 75mg) in adults living with mild, moderate and severe OSA, and across all weight classes. The SynAIRgy trial met its primary endpoint: mean change from baseline in the apnea-hypopnea index (AHI) at 26 weeks compared to placebo ($p=0.001$). The topline results for the primary and multiple secondary endpoints were similar to the results observed in the previous 4-week [MARIPOSA Phase 2b clinical trial](#). AD109 was generally well-tolerated, and the most common adverse events were consistent with earlier AD109 clinical trials. No serious adverse events related to AD109 were reported in the SynAIRgy trial.

An estimated 80 million people in the United States and one billion people worldwide are living with OSA. OSA is caused by two overlapping mechanisms: neuromuscular dysfunction during sleep and predisposing anatomic abnormalities. AD109 is designed to target the neurobiology of the hypoglossal motor nucleus by increasing signals to the upper airway muscles during sleep, leading to the reduction or prevention of upper airway collapse.

"Today is a landmark moment for Apnimed and for millions living with OSA who have long struggled with limited treatment options," said Larry Miller, MD, Chief Executive Officer of Apnimed. "The positive results from our Phase 3 SynAIRgy trial bring us closer to realizing our vision of offering a simple, safe, and effective oral drug — one that is grounded in science, driven by unmet need, and centered on people with OSA. We believe these results represent the dawn of a new era in the OSA treatment paradigm. We are deeply grateful to the patients, investigators, and clinical teams whose partnership and commitment made this achievement possible. Importantly, these results increase our confidence in the expected outcome of the second Phase 3 clinical trial, LunAIRo, with topline results expected in Q3'25."

Additional Efficacy Results

In addition to meeting the primary endpoint, AD109 also demonstrated improvements in other secondary and exploratory endpoints, including:

- Meaningful improvements in oxygenation as assessed by hypoxic burden ($p<0.0001$) and oxygen desaturation index ($p=0.001$)
- 51.2% of participants treated with AD109 showed a reduction in OSA disease severity category
- 22.3% of participants treated with AD109 achieved complete OSA disease control (defined as AHI <5 events/hour)

"These Phase 3 topline results are highly encouraging and represent the potential for a much-needed innovation in the treatment of OSA," said Patrick Strollo, Jr., MD, study chair of the SynAIRgy clinical trial and Vice Chair of Medicine for Veteran's Affairs at the University of Pittsburgh School of Medicine. "For too long, progress in OSA has been limited, leaving many people with OSA without sustainable treatment options. The results from SynAIRgy suggest that if approved, AD109 could offer a compelling new treatment option — a novel oral drug that targets the neuromuscular root cause of airway obstruction in sleep apnea and holds promise for transforming care for a broad range of patients."

"OSA should be considered a top public health priority: it is a serious, common, chronic disease that affects a wide range of people, impacting both males and females of all age groups, ethnicities, and weight classes, including those with or without obesity," said Monica Mallampalli, PhD, President and CEO of the Alliance of Sleep Apnea Partners. "There is a vast need for new treatment options. We welcome innovations like this, which are long overdue for our patient community. The SynAIRgy results offer people hope that an oral therapy is on the horizon that could make it easier for them to manage their OSA and reclaim their

lives.”

Advancing AD109

Apnimed plans to submit a New Drug Application (NDA) for AD109 to the U.S. Food and Drug Administration (FDA) by early 2026 for regulatory review. The full data for SynAIRgy will be presented at a medical congress later this year and published in a peer-reviewed scientific journal. Apnimed also anticipates the availability of topline data in Q3 2025 from the second Phase 3 LunAIRo trial, a one-year study of AD109 in adults with OSA.

About the SynAIRgy Study

The SynAIRgy study ([NCT05813275](#)) was a randomized, double blind, placebo-controlled, parallel-arm six-month clinical trial of AD109, a fixed dose combination of aroxybutynin 2.5mg/atomoxetine 75mg, in participants with OSA who are intolerant of or currently refuse continuous positive airway pressure (CPAP) therapy. The trial enrolled 646 adult participants from 73 centers in the US and Canada. Participants were randomized 1:1 to either AD109 or placebo and instructed to take their assigned treatment once-daily before bedtime. SynAIRgy is the largest Phase 3 clinical trial of a medication to treat OSA.

Enrolled participants in SynAIRgy were representative of the real-world patient population, including the diverse demographic composition of the United States and the typical profiles seen in a sleep clinic population. Participants included 49.1% females, multiple racial groups, and varied weight classes spanning healthy weight, overweight, and with obesity. Participants were distributed across OSA severity levels, including mild (34.4%), moderate (42.4%), and severe (23.2%). Participants had symptoms reflective of the OSA patient experience.

About AD109

AD109 is designed to be the first pharmacological treatment to improve oxygenation during sleep by directly addressing the neuromuscular root cause of upper airway collapse in people with obstructive sleep apnea. It is a first-in-class combination of aroxybutynin, a novel antimuscarinic, and atomoxetine, a selective norepinephrine reuptake inhibitor (NRI). Their combined pharmacological synergy targets the underlying neuromuscular cause of OSA. AD109 is a once-daily pill taken at bedtime that is designed to lower the complexity of intervention and may help more people benefit from effective, restorative sleep. In a disease characterized by complex and invasive treatment options, AD109 may be a simple solution to help improve oxygenation and health wellbeing for people living with OSA.

About Obstructive Sleep Apnea

Obstructive sleep apnea (OSA) is a serious, chronic sleep-related breathing disease in which the upper airway repeatedly collapses during sleep, leading to intermittent oxygen deprivation. It is caused by two overlapping mechanisms: neuromuscular dysfunction during sleep and predisposing anatomic abnormalities. OSA affects individuals across all walks of life, impacting both males and females of all age groups, ethnicities, and weight classes, including those with or without obesity. An estimated 80 million people in the United States and one billion people worldwide suffer from OSA. Up to 80% of people living with OSA are undiagnosed and therefore untreated.

An individual with OSA can experience hundreds of sleep apnea events in a single night, each one reducing the blood oxygen levels and negatively impacting cellular functions vital to normal health and function. Failure to effectively treat OSA increases the risk of serious long-term health consequences, including cardiovascular disease, neurocognitive impairment, metabolic dysfunction, and early mortality. Yet, the majority of those diagnosed with OSA refuse, abandon, or underutilize treatment. Currently, no available pharmacological treatments directly address the underlying neuromuscular dysfunction that is present in OSA.

About Apnimed

Apnimed is a privately held clinical-stage pharmaceutical company dedicated to transforming the treatment landscape for sleep-related breathing diseases. We believe the introduction of simple, once-nightly oral drugs has the potential to dramatically expand diagnosis and the reach of treatment for people with OSA. OSA, like other common chronic diseases such as diabetes or hypertension, would benefit from having multiple drugs with differing mechanisms to more fully address the heterogeneity of disease pathophysiology. Apnimed envisions a new era where novel oral therapies simplify intervention, expand the reach of diagnosis and treatment, and help more people get the oxygen and restorative sleep needed to thrive.

Based in Cambridge, Mass., Apnimed is advancing a robust pipeline of oral pharmaceutical product candidates designed to improve oxygenation in individuals living with OSA and other sleep-related breathing disorders. Our lead candidate, AD109, could become the catalyst for a new oral treatment paradigm for OSA that has been historically limited to cumbersome devices or invasive surgeries. AD109 is currently in Phase 3 clinical trials for the treatment of mild, moderate and severe OSA. Apnimed is also developing several therapies as part of its joint venture with Shionogi & Co., Ltd., Shionogi-Apnimed Sleep Science.

Learn more at apnimed.com or follow us on [X](#) and [LinkedIn](#).

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