



Artificial Intelligence That Drives Clinical Confidence

Smarter Scoring. Deeper Insights. Better Outcomes

To support clinicians in delivering more precise, patient-centered care, Nox introduces advanced parameters that shed light on the underlying mechanisms and consequences of obstructive sleep apnea (OSA). With OSA endotypes, Hypoxic Burden, and Ventilatory Burden, clinicians gain a deeper understanding of disease pathways and patient risk. Combined with Nox BodySleep™ these measures provide a more complete picture of sleep physiology, support better diagnosis, and treatment decisions.

Nox BodySleep™: Closing the Gap in HSAT

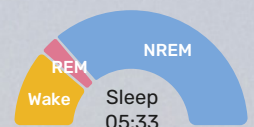
Many patients—especially women, non-obese individuals, and those with comorbidities—face underestimated OSA severity or misdiagnosis because standard home sleep tests cannot detect sleep stages or arousals.

Nox BodySleep™ enables accurate sleep staging and arousal detection using respiratory data, no EEG required. This provides critical insights often lacking in standard HSAT, supporting more conclusive interpretation across diverse populations.

Validated on a large and diverse dataset of nearly 3,500 studies, including over 1,200 PSGs, that were published in Sleep and Breathing (2025), Nox BodySleep demonstrated close agreement with gold-standard polysomnography, comparable to inter-scorer variability among experts¹. Available through the Nox Connect platform, Nox BodySleep is part of DeepRESP, an AI-driven medical device from Nox designed to enhance AHI classification, reduce false negatives, and support confident, timely diagnosis and treatment.

☰ Scoring

Recorded Hours	Hours in Sleep	Sleep Efficiency	AHI	ODI	Pulse Min	Pulse Max	SpO2 Min	Arousal Index	Duration	Percentage
07:09	05:33	78%	55.7	55.7	67	112	89%	36	Wake 95.5 m	18.7%
									REM 24.9 m	5.9%
									NREM 309.0 m7	5.5%



¹ FDA cleared software medical device DeepResp K241960.



Ventilatory Burden: Redefining sleep apnea assessment

Ventilatory Burden (VB) measures the actual airflow reduction during apneas and hypopneas, capturing the cumulative strain on breathing.

Unlike delayed SpO₂ effects, VB measures hypoventilation directly and has been shown to predict cardiovascular and all-cause mortality, underscoring its clinical importance^{1,2,3}.

Powered by precise Nox Flow™ signals and available through DeepRESP on the Nox Connect platform, VB gives physicians a more meaningful view of sleep apnea's true physiological burden.

1 Parekh et al. Am J Respir Crit Care Med. 2023;208:1216–1226.

2 Lechat & Eckert. Am J Respir Crit Care Med. 2023;208:1153–1155.

3 Labarca G, Vena D, Hu W, et al. Am J Respir Crit Care Med. 2023;208:1134–1146.



Hypoxic Burden: Deeper insights for sleep apnea assessment

Hypoxic Burden (HB) measures the total impact of oxygen desaturations by combining their depth and duration, revealing the true hypoxemic load of OSA.

Studies show HB predicts cardiovascular morbidity and mortality, offering insight into the patient impact of sleep apnea¹⁻⁵.

In Noxturnal, HB is calculated using the validated Azarbarzin definition, linking desaturations to respiratory events. By combining precise Nox RIP flow with SpO₂ signals, HB provides a reliable measure of sleep apnea-related burden beyond basic oximetry.

1 Azarbarzin A et al. Eur Heart J. 2019;40:1149–1157.

2 Blanchard M et al. Eur Respir J. 2021;57:2004022.

3 Azarbarzin A et al. Chest. 2020;158:739–750.

4 Kim JS et al. Thorax. 2020;75:57–63.

5 Jackson CL et al. Thorax. 2021;76:704–713.



OSA Endotypes: Shaping the future of sleep medicine

Obstructive sleep apnea (OSA) emerges differently in each patient, and endotyping helps explain *why* a patient has sleep apnea, not just how much. Using cannula and Nox RIP flow data, DeepRESP identifies key physiologic traits – loop gain, airway collapsibility, muscle compensation, and arousal threshold^{1,2,3,4,5,6,7}.

Research shows these traits can guide precision sleep medicine by matching patients to therapies most likely to be effective. Although further research and clinician guidance are needed on how to interpret trait data and predict therapy responses, endophenotyping shows promise in identifying patients likely to benefit from specific treatment based on underlying disease mechanism. Delivered through the Nox Connect platform, DeepRESP brings this cutting-edge science into clinical workflows.

1 Younes M, et al. (2007). J Appl Physiol, 103:1929–41. doi:10.1152/jappphysiol.00561.2007

2 Ratnavadivel R, et al. (2010). Thorax, 65:107–12. doi: 10.1136/thx.2008.112953

3 Wellman A, et al. (2011). J Appl Physiol, 110:1627–37. Doi: 10.1152/jappphysiol.00972.2010

4 Eckert DJ, et al. (2013). Am J Respir Crit Care Med, 188:996–1004. doi: 10.1164/rccm.201303-04480C

5 Sands SA, et al. (2018). Eur Respir J, 52:1800674. doi: 10.1183/13993003.00674-2018

6 Light M, et al. (2019). Sleep Med Clin, 14:391–98. doi: 10.1016/j.jjsmc.2019.05.005

7 Malhotra A, et al. (2020). Curr Opin Pulm Med, 26:609–14. doi: 10.1097/MCP.0000000000000724

DISCLAIMER: The following are medical devices that are CE-marked and intended for clinical use under the supervision or direction of a qualified healthcare professional: Nox T3 system, Nox A1 system, Noxturnal and Nox RIP belts. For more information on these devices, including their intended use, contraindications, and instructions for use, please consult the manufacturer's documentation at noxmedical.com/downloads.

DeepRESP is a FDA cleared medical device, currently only available for sale in the US. Nox Connect is not a medical device.

The availability of features may vary between markets. Please contact your local distributor for further information.

All Artificial Intelligence analysis results should always be reviewed by a certificated technologist or a physician prior to diagnosis.