



# Measuring FeNO with the FeNObreath®



## Methods of Measuring FeNO<sup>1</sup>

In 2005, the American Thoracic Society (ATS) and European Respiratory Society (ERS), released standardised procedures for measuring Fractional exhaled Nitric Oxide (FeNO).

## What do the guidelines say about ambient NO?<sup>1</sup>

While the guidelines acknowledge conflicting evidence regarding whether ambient Nitric Oxide (NO) affects FeNO results, they emphasise that FeNO devices should ensure environmental NO does not influence the measurement.

## How does the FeNObreath® address this?

The FeNObreath® uses a sampling method, effectively omitting the initial spike caused by ambient NO, ensuring that the FeNO reading accurately reflects lower airway NO.

## FeNObreath® TrueFlo™ technology<sup>1</sup>

TrueFlo™ technology refers to the precise control and measurement techniques used during FeNO testing to ensure accurate, repeatable, and clinically meaningful readings that meet the ATS/ERS recommendations for standardised procedure.

### 1. Controlled exhalation flow

ATS/ERS guidelines recommend a standardised exhalation flow rate to ensure consistent and comparable FeNO measurements.

The FeNObreath® maintains this controlled flow using precise engineering, which ensures repeatable readings across tests. With multiple flow incentives built into the device to ensure exhalation at 50mls per second.

### 2. Preventing NO contamination

During FeNO testing, the soft palate (velum) must close to prevent nasal NO from affecting results. The guidelines recommend techniques to ensure the measurement reflects lower airway NO.

FeNObreath® mouthpieces incorporate a built-in valve that provides the correct pressure to ensure velum closure during exhalation, in line with guideline recommendations.

### 3. Measuring the exhaled nitric oxide plateau

FeNO values should be recorded during the stable plateau phase of exhalation to capture steady NO levels.

The FeNObreath® omits the first few seconds of exhaled breath, ensuring only the plateau phase of the breath is measured. With the environmental NO influence removed the FeNObreath® falls in the line with the ATS/ERS standard.

### 4. Managing ambient NO

Whilst the guidelines recognise conflicting evidence regarding the effect of ambient NO on FeNO results, they highlight the importance of managing environmental NO to ensure reliable readings.

The FeNObreath® sampling and flow control technology effectively minimises ambient NO influence, supporting highly accurate FeNO measurements even in variable environments.

## How effective is the FeNObreath® TrueFlo™ technology at measuring FeNO?<sup>2</sup>

The FeNObreath® has been designed with accuracy and repeatability as central goals. The device has undergone rigorous clearance and registration processes, including CE mark, UKCA, and FDA clearance, and has been extensively validated in clinical research. Studies demonstrate excellent repeatability, reproducibility, and comparability of measurements.

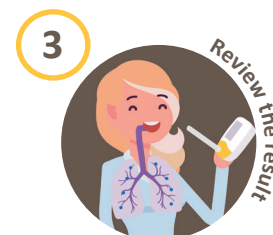
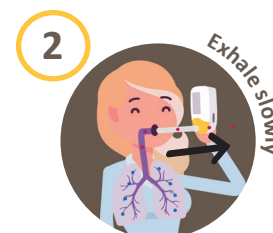
The FeNObreath® electrochemical sensor has been validated against chemiluminescence technology, showing strong correlation between the two measurement approaches<sup>2</sup>. This confirms that FeNObreath® provides reliable and clinically meaningful FeNO readings.

With over 15 years of clinical use worldwide, FeNObreath® has featured in numerous studies, proving its accuracy, consistency, and reliability across diverse patient populations. Its modern, adapted approach to FeNO measurement pioneers portable, hand-held technology without compromising on clinical validity.

*FeNObreath® as accurate as gold standard technology, just simpler.*

## References:

1. American Thoracic Society and European Respiratory Society. ATS/ERS recommendations for standardized procedures for the online and offline measurement of exhaled lower respiratory nitric oxide and nasal nitric oxide. American Journal of Respiratory and Critical Care Medicine. 2005;171(8):912-930.
2. Antus B, Horvath I, and Barta I. Assessment of exhaled nitric oxide by a new hand-held device. Respiratory Medicine. 2010;104(9):1377-1380.



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