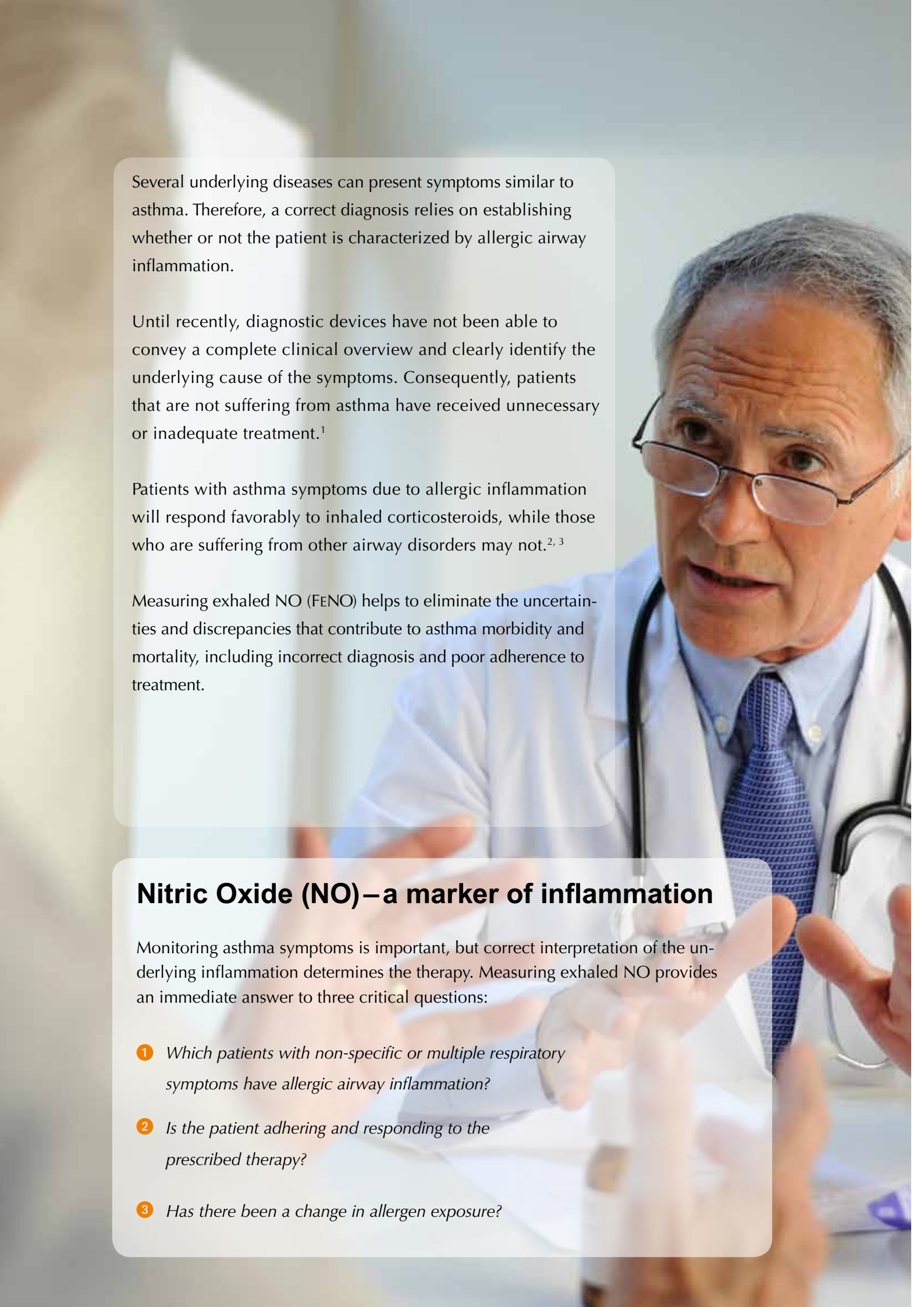


# Which asthma patient has allergic airway inflammation?



**NIOX<sup>®</sup>**

CONTROLLING ALLERGIC ASTHMA



Several underlying diseases can present symptoms similar to asthma. Therefore, a correct diagnosis relies on establishing whether or not the patient is characterized by allergic airway inflammation.

Until recently, diagnostic devices have not been able to convey a complete clinical overview and clearly identify the underlying cause of the symptoms. Consequently, patients that are not suffering from asthma have received unnecessary or inadequate treatment.<sup>1</sup>

Patients with asthma symptoms due to allergic inflammation will respond favorably to inhaled corticosteroids, while those who are suffering from other airway disorders may not.<sup>2, 3</sup>

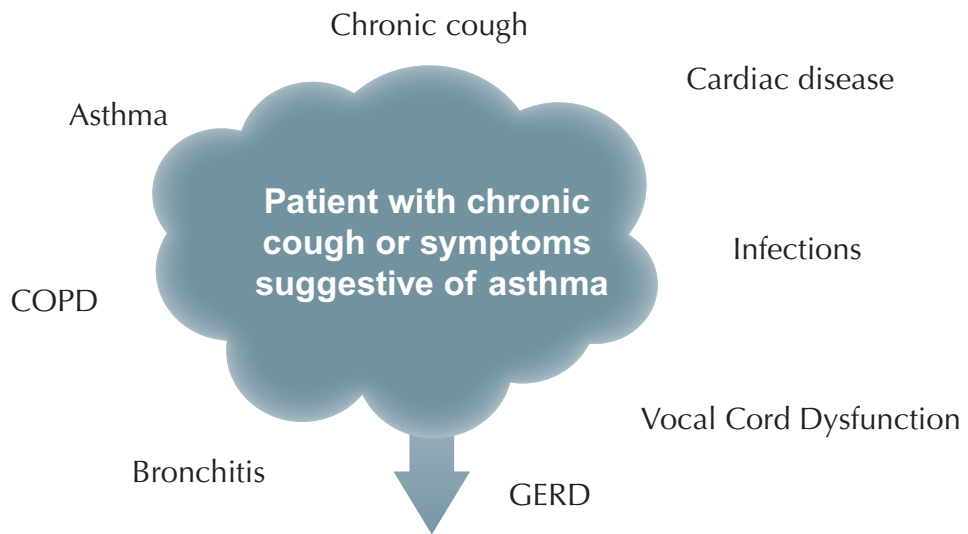
Measuring exhaled NO (FENO) helps to eliminate the uncertainties and discrepancies that contribute to asthma morbidity and mortality, including incorrect diagnosis and poor adherence to treatment.

## **Nitric Oxide (NO) – a marker of inflammation**

Monitoring asthma symptoms is important, but correct interpretation of the underlying inflammation determines the therapy. Measuring exhaled NO provides an immediate answer to three critical questions:

- 1 *Which patients with non-specific or multiple respiratory symptoms have allergic airway inflammation?*
- 2 *Is the patient adhering and responding to the prescribed therapy?*
- 3 *Has there been a change in allergen exposure?*

**1 NIOX MINO<sup>®</sup> instantly reveals allergic inflammation of the airways<sup>4</sup>**



**History, symptoms, FENO measurement**



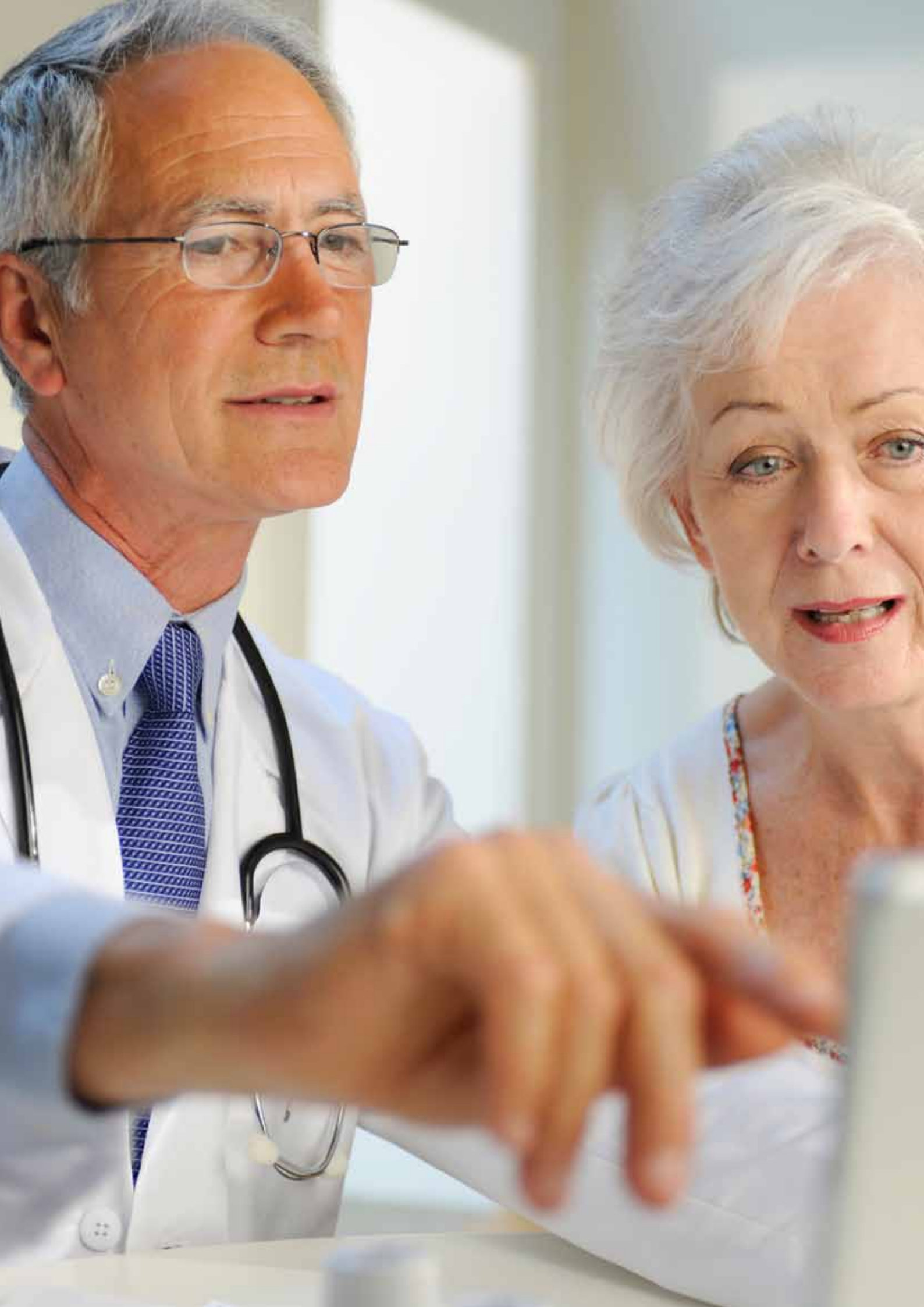
**Normal FENO**

**Consider:**  
Diagnosis other than (allergic) asthma

**Elevated FENO**

Strong predictor of allergic asthma (or eosinophilic bronchitis)  
ICS responsiveness likely

**Management and control**



## 2 NIOX MINO® instantly reveals if the patient is compliant with anti-inflammatory therapy <sup>5</sup>


In the clinical workup of the asthma patient there are several questions that must be answered;

- Is the airway inflammation under control?
- Is the patient responding to the therapy?
- Does the patient take the medication?
- Is the patient using correct inhalation technique?

In clinical practice NIOX MINO will immediately identify the non-compliant patient or the patient with an inadequate drug delivery technique. It will also confirm uncontrolled airway inflammation.



*NIOX MINO is the device of choice used globally for measurement of airway inflammation in clinical practice and in clinical studies. The performance of NIOX MINO is documented in more than 30 clinical papers in peer-reviewed journals.*



**Continuous  
follow-up and evaluation**

**Symptoms  
+ NO measurement**

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**= An objective measurement of:**

- ✓ Therapy response
- ✓ Patient compliance to therapy
- ✓ Drug delivery

**= Inflammation control**

"Control of inflammation is needed in asthma to reduce exacerbation frequency."

M. Thomas et al. High-dose inhaled corticosteroids versus add-on long-acting beta-agonists in asthma: an observational study. *J Allergy Clin Immunol.* 2009;123(1):116-121.

### 3 NIOX MINO<sup>®</sup> reveals changes in allergen exposure <sup>6</sup>

Anti-inflammatory treatment can become ineffective for patients who are highly exposed to household and work-place allergens, especially if they are subjected to continuous exposure.



Despite optimal anti-inflammatory therapy, the rapid onset of allergic rhinitis and conjunctivitis, or continued respiratory symptoms, can indicate significant exposure to unidentified allergens.

High NO values indicate the presence of inflammation and alert the physician and patient to these conditions, suggesting the need for a change in therapy.

# NIOX MINO<sup>®</sup> – maintenance and calibration free NO-measurement

- The *only* calibration and maintenance-free NO device
- All NO values quality assured
- Individualized data management for the practice and the patient

Maintenance and  
calibration free

## Procedure



*Exhale to empty the lungs*



*Inhale deeply through the disposable filter*



*Exhale through the filter*

### *View results on screen*

*The procedure can be followed by either the audio or visual feed-back. When the procedure is finished, measurement results are available within a couple of minutes.*



# Connectivity with individualized Data Management

- Electronic storage and display of patient data
- Prepared for direct communication to patient Electronic Medical Record (EMR).
- Convert patient data into a PDF report.
- Visual Incentive Program
- Practice and patient specific information material



## Visual Incentive

Cable (USB) or wireless (Bluetooth) connection to a PC makes it possible to follow the procedure on the PC screen.



## Nasal research application



- With the NIOX MINO Nasal Application nasal NO concentration can be measured in gas aspirated from a nostril using passive sampling.

*Additional parts are needed to run this application.*

# Guide to interpretation of quality assured values from NIOX MINO® in patients with airway disease

	LOW	NORMAL	INTERMEDIATE	HIGH
Allergic airway inflammation	Unlikely	Unlikely	Present, but mild	Significant
<b>ADULTS</b>				
FeNO value (Fractional Exhaled Nitric Oxide)	<5	5–25	25–50	>50 (or a rise of > 60% since previous measurement)
<b>CHILDREN &lt; 12 years</b>				
FeNO value (Fractional Exhaled Nitric Oxide)	<5	5–20	20–35	>35 (or a rise of > 60% since previous measurement)

\* Adapted from Taylor DR, Pijnenburg MW, Smith AD, De Jongste JC. *Exhaled nitric oxide measurements: clinical application and interpretation. Thorax 2006; 61: 817-27.*

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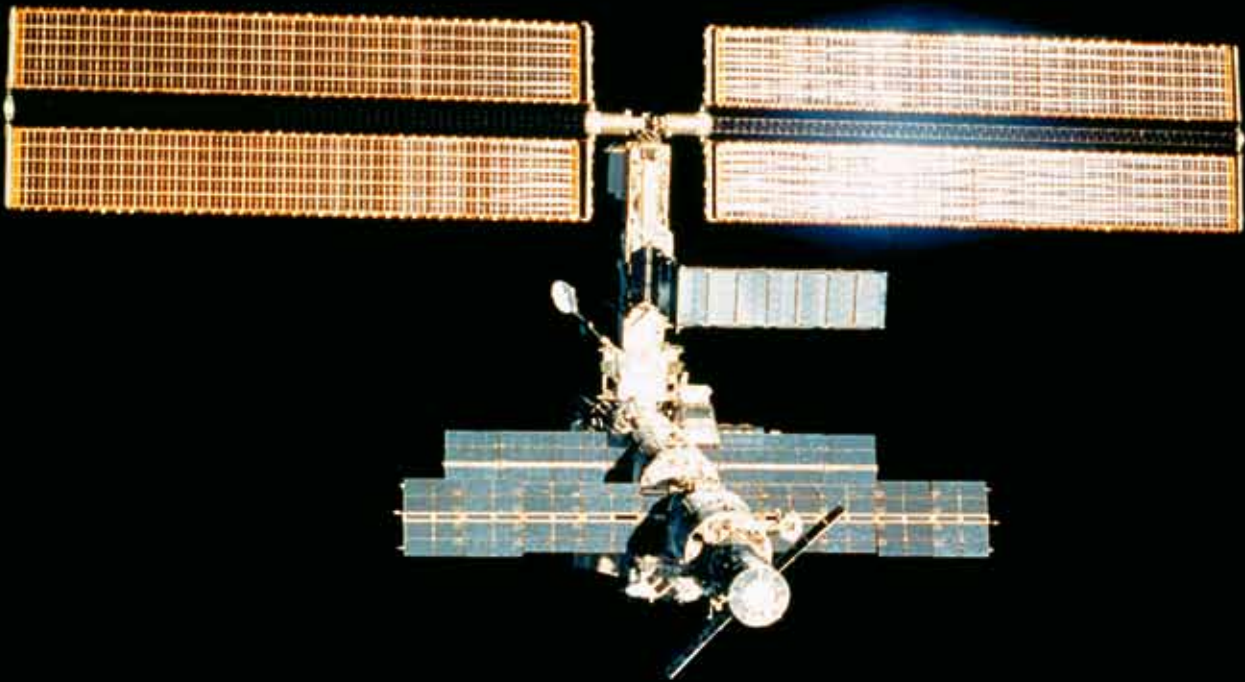
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Aerocrine is continuously developing and documenting NO measurement as a valuable tool in the management of airway disease. More than 4 million tests in clinical practice prove its efficacy.

#### Continuous ground-breaking development

- Aerocrine developed the first instrument for measurement of exhaled NO
- Aerocrine instruments will remain the Gold Standard for FENO measurement
- Aerocrine has close collaboration with the world's leading NO scientists
- Aerocrine will continue to lead the development of NO as a marker of airway inflammation

*The International Space Station is using the NIOX MINO® to evaluate the effects of inhaling oxygen-rich air and spacewalking on astronauts, who are preparing to work in the stratosphere – the ultimate point-of-care testing!*



# Aerocrine



## A NEW DIMENSION IN ASTHMA CARE

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NIOX MINO® is CE marked according to European In Vitro Diagnostic Device Directive 98/79/EEC and 510(k) cleared (K101034) by FDA.  
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US Patent 5,447,165, US Patent 5,922,610, US Patent 6,038,913, US Patent 6,063,027,  
US Patent 6,099,480, US Patent 6,183,416, US Patent 6,511,425, US Patent 6,626,844, US Patent 6,723,056, US Patent 6,733,463,  
US Patent 6,761,185, US Patent 7,014,692, US Patent 7,270,638, US Patent D448,693, US Patent D457,231, US Patent D492,035,  
US Patent D496,667 and patents pending.