Pulse oximetry is used to assess oxygen saturation but must be used as part of a comprehensive assessment, not in isolation.7

FeNO can be used as part of the investigation of allergic airway inflammation. Levels above 20-35 ppb indicate allergic inflammation present: asthma, atopic dermatitis, laryngitis, rhinitis, aspirin intolerance, nasal allergic fungal sinusitis.4 Levels below 20 ppb, combined with symptoms and lack of other evidence, are suggestive of non-allergic asthma. Results are not influenced by smoking, recent exercise, and are not affected by anti-inflammatory medication, asthma medications or even antibiotics.5

After repeated spirometry manoeuvres:
- 20-35 ppb, not inflamed
- 35-70 ppb, asthma likely (40% likelihood) if history is consistent with asthma
- >70 ppb, asthma likely (≥80% likelihood) if history is consistent with asthma

Diagnose relies on the performance of every qualified spirometry. Spirometry is a very user- and operator-dependent test. The introduction of the National Register of certified professionals and operators’ and operators’ seals will address variation in care by setting national standards of performance. All healthcare professionals performing spirometry and those interpreting results should be assessed as competent in their role.

A log should be kept of cleaning procedures. It is recommended that patients should be tested on newly equipped equipment. A disposable one-way valved mouthpiece and disposable nose clip must be used for each patient. A delay of at least 5 minutes should be allowed between subjects to allow setting of previously aerosolised particles in the measuring device. Please refer to local/institutional guidelines on the use of test equipment. If there is visible contamination to the flowhead or television on the device, clean and disinfect as per manufacturer’s instructions. Clean and disinfect all parts of the equipment which have come into contact with patients once a week. An accuracy check should be performed using a 3-5 min syringe at the beginning of each spirometry session or after every 10 patients. A biological control, using the same healthy volunteer, should be performed weekly. The spirometer and accuracy syringes should be returned to the manufacturer annually for calibration and services and a certificate obtained. All software updates and repairs should be documented.6

The Microspirometry National Standards are available to purchase.8

Microspirometers do not require verification checks, therefore the accuracy cannot be guaranteed. The monitors are hand-held without a paper protocol or comprehensive interpretation into medical records to transmit operates can occur.

Microspirometers cannot be validated or calibrated by CE mark alone. Certified professionals and operators’ seals have been introduced to bring standards in this area in line with spirometry.9

Every time a previously healthy person, consider admission.

Serious consideration needs to be given before withdrawing or stopping long-term or inhaled steroids.13

Use a new one-way valved mouthpiece for each patient. Clean and service as per manufacturer’s instructions.