TOOLS TO SUPPORT DIAGNOSIS OF RESPIRATORY DISEASE

PEAK FLOW

Peak expiratory flow rate (PEFR) measures the amount of air that can be forcefully expelled from the lungs. It can be used to monitor asthma, and can be used to demonstrate evidence of variability in lung function when diagnosing asthma.

When to use PEFR
- PeFR is not relevant in COPD management.

Application of results in clinical practice
- Record variability in PEFR as a diagnostic tool in adults but current guidelines do not support this in children. Variability can be demonstrated comparing a period when the person is symptom free to a period when the person is ill. It is important to establish what is normal for an individual when they are well, ideally during the annual review, as a comparator to determine how much they have become during an exacerbation or acute attack of asthma.

Special precautions
- Always use a meroscope one-way valve mouthpiece for each person. If the meter is marked ‘single patient use only’ it must not be used for more than one patient. For cleaning and disinfecting, follow manufacturers’ instructions.

SPRIOMETRY

Spirometry measures the amount a person can breathe in and out. It is used to establish the patient’s best lung function as part of the diagnostic pathway.

When to use spirometry
- Spirometry can be used to monitor chronic respiratory conditions such as COPD when it is performed annually to monitor decline in lung function.

Application of results in clinical practice
- Do not perform spirometry if the patient has any condition that may have serious consequences by performing a forced expiration – unstable angina, pneumothorax or surgery within 3 months only, asthma, chest or abdomen. If the patient has active infection such as an AR infection positive (i.e., do not perform spirometry within 3 weeks of administration). Serious consideration needs to be given before performing spirometry if the patient has had an infection within 4–6 weeks, has undergone chest surgery or has lung function impairment. Spirometry should be performed at least 3 months before, or as close to normal as possible, to ensure accurate results.

Special precautions
- Diagnosis relies on the performance of very good aspirator and operator. Repeated spirometry manoeuvres and those interpreting results should be assessed as competent in their role.

MICROSPIROMETRY

Screening for respiratory disease
- Annual review of establishment of COPD

Microspirometry is not suitable for use in diagnosis. If abnormal results are found, full spirometry is required.

Microspirometry monitors are used to perform forced expirations on patients where spirometry is not feasible due to time or physical reasons.

Special precautions
- Microspirometry traces are seen in very severe COPD, excision of part or all of the lung.

CARBON MONOXIDE MONITORING

An elevated CO level gives an indication of CO that has been inhaled in the previous 8–12 hours. This is usually due to active tobacco smoking, but carbon dioxide can be due to passive inhalation from smoked tobacco but also from domestic and environmental sources. It is a motivational test and a conversation starter where the cause is usually tobacco and should always be used according to NICE when monitoring a quit smoking plan (http://www.londonmrate.hil/pers-con- tent/uploads/2015/04/Helping-Smokers-Quit-Programme-the-exposed-carbon-monoxide-test-co-red.pdf).

Pulse oximetry
- To assess oxygen saturation but must be used as part of a complete assessment.

A symptom atopic asthma
- • Diagnosis: likely (≥80% likelihood) if history of allergy, asthma or eczema in first-degree relative. If a skin prick test is performed, results should be reported as positive if the reaction is 3 mm or greater.
- • Airway inflammation: increased airway responsiveness, hyperreactivity to inhaled antigen tests and exercise-induced airway hyperresponsiveness. Pulmonary function tests show an obstructive pattern.

Pulmonary function tests (PFTs) are performed to assess lung function for patients with suspected respiratory disease.

Fraction of exhaled nitric oxide monitoring (FENO) measures the amount of nitric oxide in exhaled breath in parts per billion (ppb) in a minute test. No mouthpiece is required, in exhaled breath directly relates to eosinophilic inflammation in the airways, so the higher the FENO the more evidence of asthma.

FENO can be used as part of the diagnostic pathway for asthma or COPD COPD overlap syndrome (COS) to guide treatment decisions as stepping up or down asthma therapy, to help adjust medication to prescribed asthma medication, and to help adjust patient education regarding asthma and the action of inhaled steroids and bronchodilators to improve supported self-management.
NIOX VERO® Gives You Knowledge in Numbers

Quick and Easy FeNO Measurement at the Point of Care

FeNO by NIOX®

NIOX VERO® with automated postprocessing can provide greater insights to guide assessment and treatment of T2 driven asthma inflammation. 

It helps you:
- Identify ICS-responsive patients
- Assist in ICS dosage
- Reduce patient adherence
- As well as improve cost efficiency

FeNO measurement with NIOX® is reliable, and provides an accurate result in a single measurement.

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PCRS-UK National Primary Care Conference 2017
Beyond the respiratory consultation: inspiring lifelong change
29-30th September 2017
Telford International Centre

The premier respiratory conference for primary, community and integrated care health professionals

Embedded in day-to-day clinical practice, this year’s PCRS-UK conference will explore how we can work with patients in the consultation to help them bring about long-term sustainable improvements not only in their respiratory condition but also their overall health and well being, through active participation in their care.

A holistic programme

The programme, designed by a multi-disciplinary team of primary, community and integrated care respiratory experts, will provide thought-provoking, interactive and inspiring keynote plenary presentations, patient-centred, essential clinical updates, key service development and commissioning sessions, real-world research presentations and practical workshops.

Conference partners

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Tools to Support Diagnosis of Respiratory Disease

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