

# NHSGGC Guidance for use of Spirometry in Primary Care

## Background

Spirometry is currently available through the Respiratory Physiology Spirometry Outreach Service in Greater Glasgow and Clyde. This service is funded for, and is only available to, diagnose and assess the severity of Chronic Obstructive Pulmonary Disease (COPD). COPD is diagnosed using spirometry and management relies, in part, on a knowledge of the degree of airflow obstruction. The NHSGGC Respiratory Managed Clinical Network has written guidelines [on management of COPD<sup>1</sup>](#) and [inhaler device protocols<sup>2</sup>](#).

## Spirometry to diagnose COPD

The diagnosis of COPD should be considered in patients aged over 35 years who smoke or have smoked, and have the appropriate chronic symptoms of:

- breathlessness
- cough and/ or
- sputum

The diagnosis is confirmed by demonstrating airflow obstruction (FEV1/FVC of  $<0.7$  post bronchodilator) using spirometry<sup>4</sup>.

The severity of airflow obstruction in COPD can be measured and may influence management. If there is no evidence of airflow obstruction on spirometry (FEV1/FVC  $>0.7$ ) then other conditions, such as fibrosis, should be considered. FEV1/FVC ratio of  $<0.7$  may over diagnose airflow obstruction in the over 70s; therefore, ensure consistent history and symptoms in the elderly

## Accessing and performing spirometry

Practices in Greater Glasgow can access the Spirometry Outreach service using a SCI Gateway referral. **This service is for COPD only.** Spirometry will then be performed in one of the lung function labs at sites around the city.

Some practices may choose to perform their own spirometry. Poorly performed spirometry produces misleading results. Anyone performing spirometry should be appropriately trained and should undertake regular updates. Spirometry equipment should be regularly maintained, cleaned, calibrated, and disinfected according to the manufacturer's guidance. See link to GOLD guideline for more specific detail<sup>3</sup>. Audit should also be part of routine practice.

## Spirometry in COPD monitoring

Repeat spirometry is not usually required after making a diagnosis of COPD. Repeat spirometry can, occasionally be helpful, in certain situations if there has been a clear decline in symptoms and MRC breathlessness grade; however [GOLD guidelines 2017<sup>5</sup>](#) put less emphasis on FEV1 in directing treatment. Repeating spirometry is unlikely to directly change patient management if previous results have shown FEV1  $<50\%$  predicted. Rate of decline in FEV1 in COPD is fairly slow – averaging 30-40ml per year. The MCN suggests that spirometry performed within the previous 5 years can be relied upon as a sufficiently accurate measure of the patient's degree of airflow obstruction.

## Spirometry in asthma

The diagnosis of asthma is mainly based on careful clinical assessment which involves recognising a characteristic pattern of symptoms and signs in the absence of an alternative explanation for them. The key is to take a careful clinical history. This can be combined with serial peak flow measurement. A trial of treatment to confirm the diagnosis can be used in those with a high clinical suspicion.

The GGC spirometry outreach service is funded as a COPD service and is not able to accept referrals to diagnose asthma. If there is diagnostic doubt, then patients should be referred for a respiratory assessment in secondary care.

## References

1. NHSGGC Respiratory Managed Clinical Network (June, 2017). *NHSGGC Primary Care COPD Guideline*. Retrieved from <http://www.nhsggc.org.uk/about-us/professional-support-sites/heart-stroke-diabetes-rheumatology-and-chronic-pain-mcns/respiratory-mcn/gp-guidelines/>
2. NHSGGC South Sector Respiratory Prescribing Support Team (September, 2015). *COPD – Primary and Secondary Care Inhaler Device Guide*. Retrieved from: [http://www.ggcprescribing.org.uk/media/uploads/prescribing\\_resources/copd\\_inhaler\\_device\\_guide\\_080116\(1\)\\_160222.pdf](http://www.ggcprescribing.org.uk/media/uploads/prescribing_resources/copd_inhaler_device_guide_080116(1)_160222.pdf)
3. *The Global Initiative for Chronic Obstructive Lung Disease (GOLD) (2010). SPIROMETRY FOR HEALTH CARE PROVIDERS*. Retrieved from: [http://goldcopd.org/wp-content/uploads/2016/04/GOLD\\_Spirometry\\_2010.pdf](http://goldcopd.org/wp-content/uploads/2016/04/GOLD_Spirometry_2010.pdf)
4. National Institute for Health and Care Excellence (NICE) (June, 2017). *NICE clinical guideline 101 - Chronic obstructive pulmonary disease in over 16s: diagnosis and management*. Retrieved from: <http://www.nice.org.uk/nicemedia/live/13029/49397/49397.pdf>
5. The Global Initiative for Chronic Obstructive Lung Disease (GOLD) (2017) *Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease, 2017 Report*. Retrieved from: <http://goldcopd.org/gold-2017-global-strategy-diagnosis-management-prevention-copd/>
6. The British Thoracic Society, 2017. *COPD and Spirometry*. See: Standards of care, links and documents on web page.. Retrieved from: <https://www.brit-thoracic.org.uk/standards-of-care/quality-improvement/copd-and-spirometry/>

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