

**Direct referral form for lung function testing**

Patient information

Full Name ..... NHS no:.....  
 Address..... D.O.B ...../...../.....  
 ..... Smoker <sup>(circle)</sup> yes ex never  
 Postcode..... Date of request ...../...../.....  
 Clinical details.....

In order to refer for spirometry testing certain contraindications need to be checked:

If answers is yes to any of these please do not refer

<i>Acute disorders affecting performance (e.g. vomiting, nausea, vertigo)</i>	yes / no
<i>Haemoptysis of unknown origin (spirometry may aggravate underlying condition)</i>	yes / no
<i>Pneumothorax within 12 weeks</i>	yes / no
<i>Recent abdominal or thoracic surgery within 12 weeks</i>	yes / no
<i>Recent eye surgery (spirometry increases intraocular pressure) within 6 weeks</i>	yes / no
<i>Recent myocardial infarction or unstable angina within 6 weeks</i>	yes / no
<i>Thoracic aneurysms (risk of rupture because of increased thoracic pressure)</i>	yes / no
<i>Suspected/ confirmed active pulmonary TB</i>	yes / no

**Please perform spirometry**  (tick box to request)

Hospital <sup>(circle)</sup>    **NTGH**            **Berwick**            **GBHunter**            **Wansbeck**            **Hexham**

If the spirometry result shows an obstructive ratio a bronchodilator can be given if signed below.

**Please assess this patient's response to 200 µg Salbutamol via MDI**  (tick box to request)

*Signature* (must be signed & dated by a doctor) ..... *Date of Request:* ...../...../.....  
*Name*.....

If central/upper airway obstruction is suspected (suspected goitre, stridor, tumour, and vocal cord oedema) a flow volume loop can be requested as a flattened inspiratory/expiratory section of the loop can help confirm this

**Please perform flow volume loop**  (tick box to request)

Please send completed form to:

Department of Lung Function,  
 North Tyneside General Hospital,  
 Rake Lane,  
 North Shields,  
 NE29 8NH  
 Tel. 0844 811 8111 ext 2657

with addressed envelope for us to return the results, we will arrange the appointment at your chosen site.

The spirometry will give FEV1, FVC, and FEV1/FVC ratio, the results will indicate:

- within normal predicted limits
- Airway obstruction
- Airway restriction

	Height (m)		Weight (kg)		
	Predicted	Pre BD	Post BD	% predicted	%change
FEV1 (l)					
FVC (l)					
FEV1/FVC %					

### Interpretation of Results

Spirometry indicates the presence of an abnormality if any of the following are recorded:

- FEV1 <80% predicted normal
- FVC <80% predicted normal
- FEV1/FVC ratio <0.7

### Obstructive Spirometry

- FEV1/FVC ratio reduced (<0.7)
- FVC is usually reduced but to a lesser extent than FEV1

The commonest causes are COPD and Asthma.

Obstructive spirometry has other causes, including bronchiectasis, sarcoidosis and endobronchial tumours.

Airflow obstruction in COPD can be categorised according to the NICE guidelines:

Post bronchodilator FEV1/FVC ratio	FEV1% Predicted	Post-Bronchodilator
<0.7	≥ 80%	Stage 1-Mild*
<0.7	50-79%	Stage2- Moderate
<0.7	30-49%	Stage 3- Severe
<0.7	<30%	Stage 4- Very Severe**

\*Symptoms should be present to diagnose COPD in people with mild airflow obstruction

\*\* Or FEV1 < 50% with respiratory failure

### Restrictive Spirometry

- FEV1 reduced (<80% predicted normal)
- FVC reduced (<80% predicted normal)
- FEV1/FVC ratio normal (>0.7)

Restrictive Spirometry is found in:

- 1) Parenchymal respiratory diseases that restrict lung expansion (e.g. -pulmonary fibrosis).
- 2) Extra-pulmonary causes ( e.g.- morbid obesity, neuromuscular disease, kyphosis),
- 3) Pleural disease ( e.g.- diffuse pleural thickening)

Restrictive spirometry needs to be interpreted in conjunction with a recent CXR and the clinical symptoms.