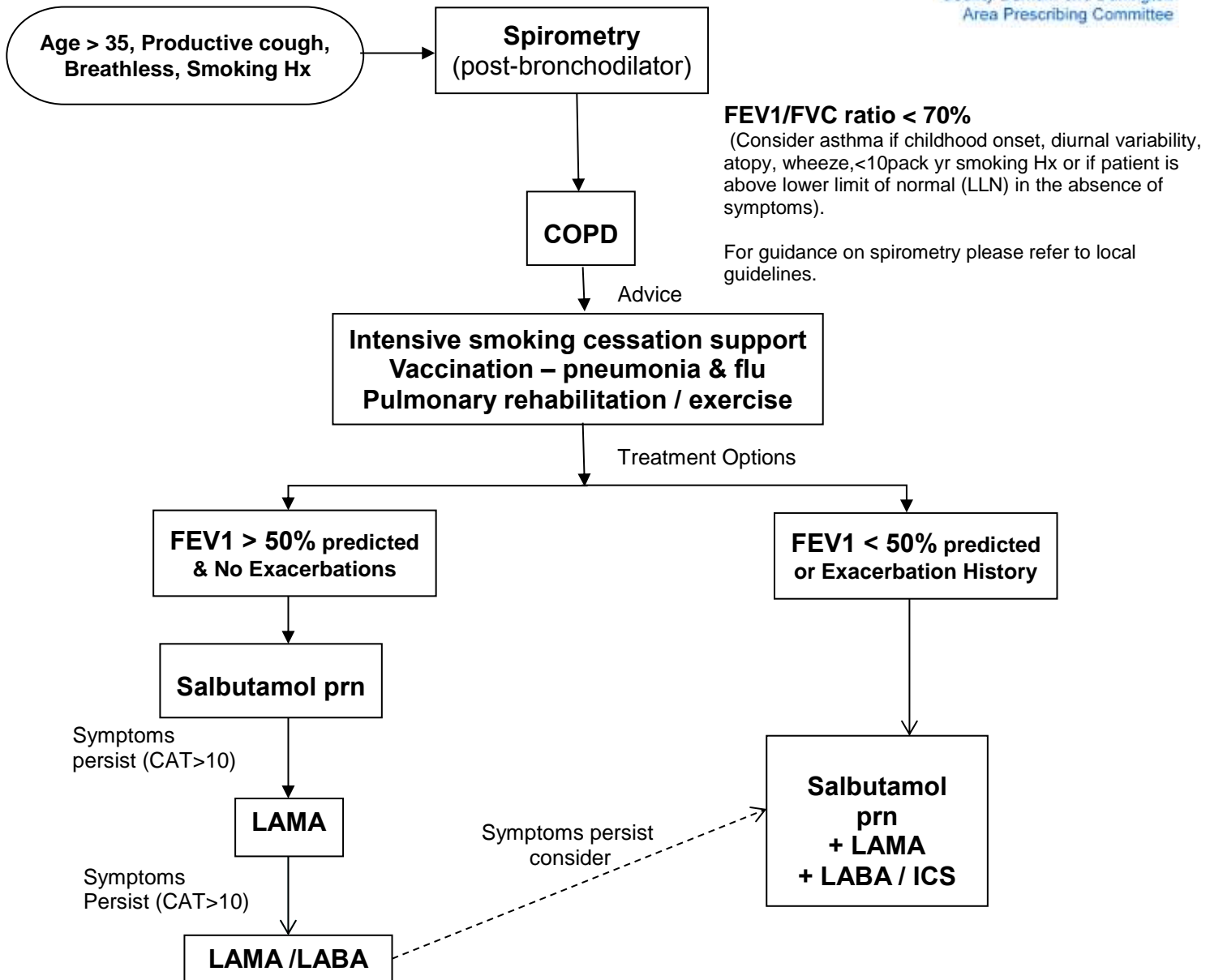


# Co. Durham & Darlington Respiratory Network COPD Treatment Guide



County Durham and Darlington  
Area Prescribing Committee



- ▶ Review patients frequently. Use CAT score to assess symptoms & disease impact. (COPD)AssessmentTestOnline @ <http://www.catestonline.org/>
- ▶ Consider comorbidities.
- ▶ Patient education (the condition, diet, exercise, exacerbations, self management plans)
- ▶ Monitor and coach inhaler technique at each visit
- ▶ Monitor oxygen saturation: refer if SaO<sub>2</sub> <92% on one or more occasion at rest or de-saturation on exercise
- ▶ Screen for anxiety and depression
- ▶ Exacerbations – prednisolone 30mg/day for 5 days + antibiotics if sputum purulent (see over); review treatment & pulmonary rehabilitation; consider CXR if no improvement after 3 weeks to exclude malignancy. (Exacerbation History when >2 in last year)

PTO for further information on inhalers & management.

Approved by: CD&D Area Prescribing Committee Approval Date: Jan 2017 (amended Feb 2017)

Review: July 2018

## How is your COPD? Take the COPD Assessment Test TM (CAT)

		SCORE					
I never cough	0 1 2 3 4 5	I cough all the time					
I have no phlegm (mucus) in my chest at all	0 1 2 3 4 5	My chest is completely full of phlegm (mucus)					
My chest does not feel tight at all	0 1 2 3 4 5	My chest feels very tight					
When I walk up a hill or one flight of stairs I am not breathless	0 1 2 3 4 5	When I walk up a hill or one flight of stairs I am very breathless					
I am not limited doing any activities at home	0 1 2 3 4 5	I am very limited doing activities at home					
I am confident leaving my home despite my lung condition	0 1 2 3 4 5	I am not at all confident leaving my home because of my lung condition					
I sleep soundly	0 1 2 3 4 5	I don't sleep soundly because of my lung condition					
I have lots of energy	0 1 2 3 4 5	I have no energy at all					
			<b>TOTAL SCORE</b>				

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Grade	Degree of breathlessness related to activities - MRC
1	Not troubled by breathlessness except on strenuous exercise
2	Short of breath when hurrying on the level or walking up a slight hill
3	Walks slower than most people on the level, stops after a mile or so, or stops after 15 minutes walking at own pace.
4	Stops for breath after walking about 100yards or after a few minutes on level ground
5	Too breathless to leave the house, or breathless when undressing

**Refer patients to British Lung Foundation for information and support**  
**BLF Helpline 03000 030 555      www.blf.org.uk/COPD**

**To diagnose COPD** – clinical history and post-bronchodilator spirometry showing FEV1/FVC <70%. Consider CXR at diagnosis (if none within 12 months) to exclude malignancy. Spirometry must be performed by a trained individual who maintains competency. Spirometers need to be maintained and calibrated regularly to ensure accuracy.

**Severity & monitoring of COPD** – use %FEV1 (actual FEV1/expected FEV1), exacerbation history & symptoms to assess severity, then follow treatment guide.

**Annual review in primary care** – ask patient to bring inhalers to appointment. Complete your CCG recommended COPD template & self-management plans ( for MRC3 or more). Ensure rescue meds are issued to those who have exacerbations.

### **Intensive Smoking Cessation support:**

Stopping smoking is the most important intervention in COPD.

**Pulmonary Rehabilitation** – is effective and should be offered to patients with MRC 3-5 or those with MRC and symptoms. Repeat every 2-3years. Consider early after an exacerbation. Other COPD patients should be offered referral to exercise schemes. Muscle wasting is bad for COPD patients.

**Weight** - Support patient to maintain BMI 20-25 range.

**INHALERS** – the best inhaler is the device which the patient can use. Please rationalise to the same device where possible.

### **Short acting bronchodilators**

Salbutamol is most commonly used, terbutaline is an alternative. Ipratropium is no longer recommended - replaced by LAMA. Nebulisers do not offer convincing advantages over metered dose inhalers given via a spacer device and are not routinely recommended.

**LAMA (long acting anti-muscarinic agent)** If initial choice doesn't work, try an alternative. Patients with FEV1 >50% & no frequent exacerbations - stop if no improvement after 6 weeks. However in patients with FEV1 <50%, LAMA is proven to reduce exacerbation frequency and long term treatment is justified.

**LABA (long acting beta-agonist) - use LAMA initially**

**LABA / ICS combinations (long acting beta-agonist/inhaled corticosteroid)**

Inhaled corticosteroids should not be used in isolation in COPD. LABA/ICS combinations reduce exacerbations in patients with an FEV1 < 50% of predicted. Be aware of small increased risk of pneumonia. Issue steroid card when prescribing 1G or more of beclometasone equivalent  
**LAMA/LABA** If both to be used, prescribe in combination as more efficacious

**Mucolytics** – may improve cough and difficulty expectorating. A trial period of 4-6 weeks.

**Exacerbations** – Prednisolone 30mg, (& in infective exacerbations add doxycycline or amoxicillin for 5 days (co-amoxiclav 2<sup>nd</sup> line)). Send sputum for culture in those who do not respond.

**Vaccination** – pneumococcal & annual influenza.

### **Anxiety & Depression**

Clinical diagnosis or PHQ>9- treat according to NICE guideline e.g. refer for CBT.

**Comorbidities** – many will have comorbidities, inc. CVD (40%). Ensure they are assessed & treated

### **BNF 3.1.1 - Adrenoreceptor Agonist Bronchodilators**

#### Short-acting:

1<sup>st</sup> Choice = salbutamol (Salamol Easi-breathe or Ventolin Accuhaler)

Alternative = terbutaline

Ipratropium is no longer recommended - replaced by LAMA. Nebulisers do not offer convincing advantages over metered dose inhalers given via a spacer device and are not routinely recommended.

#### Long-acting:






1<sup>st</sup> Choice = formoterol

Alternative = salmeterol

Formoterol acts most quickly, salmeterol is alternative

Formoterol is the most cost-effective LABA currently.





## BNF 3.1.2 - Antimuscarinic Bronchodilators - please ensure you prescribe by brand

	Inhaler options				
	Tiotropium	Glycopyrronium	Umeclidinium	Acclidinium	Tiotropium
<b>Brand name</b>	Braltus®	Seebri® Breezhaler®	Incruse Ellipta®	Eklira Genuair®	Spiriva respimat
<b>Device</b>	Dry powder (capsule)	Dry powder (capsule)	Dry powder (multidose)	Dry powder (multi-dose)	Solution for inhalation cartridge
					
<b>Strengths</b>	13 microgram (equivalent delivered dose of 10microgram – the same as Spiriva)	50 microgram	55 microgram	322 microgram	2.5 micrograms
<b>Adult COPD dose</b>	Inhalation of the contents of one capsule once daily with the Zonda® inhaler device at the same time of day.	Inhalation of the contents of one capsule once daily with the Seebri® Breezhaler® device at the same time of day.	The recommended dose is one inhalation once daily , at the same time of day	The recommended dose is one inhalation twice daily	<b>*For use only when patient is unable to use Braltus® device*</b> The recommended dose is two inhalations once daily at the same time of day.
<b>Steps to use the inhaler – ease of use</b>	<b>7 step process</b> <ul style="list-style-type: none"> <li>Remove capsule from capsule pot</li> <li>Load capsule into inhaler</li> <li>Pierce capsule</li> <li>Inhale powder</li> <li>Hold breath for 10 seconds</li> <li>Repeat inhalation</li> <li>Dispose of capsule</li> </ul>	<b>7 Step process</b> <ul style="list-style-type: none"> <li>Remove capsule from blister pack</li> <li>Load capsule into inhaler</li> <li>Pierce capsule</li> <li>Inhale powder</li> <li>Check capsule empty</li> <li>Repeat inhalation if necessary</li> <li>Dispose of capsule</li> </ul>	<b>3 step process</b> <ul style="list-style-type: none"> <li>Slide down cover to load dose</li> <li>Inhale dose</li> <li>Replace cover</li> </ul> <p>Indicator shows successful inhalation</p>	<b>4 step process</b> <ul style="list-style-type: none"> <li>Remove cap</li> <li>Press and release button to load dose</li> <li>Inhale dose</li> <li>Replace cap</li> </ul> <p>Indicator shows successful inhalation –repeat if necessary</p>	<b>4 step process then repeat</b> <ul style="list-style-type: none"> <li>Turn the clear base in the direction of the label until it clicks (half a turn)</li> <li>Open the cap until it snaps fully open</li> <li>Whilst inhaling press the dose-release button and continue to inhale.</li> <li>Hold breath for 10 seconds</li> <li>Repeat steps for second dose</li> <li>Close cap once finished</li> </ul>
<b>Miscellaneous information</b>	<ul style="list-style-type: none"> <li>New inhaler with each pack of capsules – no cleaning.</li> <li>Clear capsules – allows patient to see that dose has been taken.</li> </ul>	<ul style="list-style-type: none"> <li>Powder taste and inhaler sound show inhaler working</li> <li>New inhaler with each pack of capsules – no cleaning</li> </ul>	<ul style="list-style-type: none"> <li>Dose counter</li> <li>No need to wash</li> <li>“Click” heard when dose loaded</li> <li>In use shelf-life = 6 weeks</li> </ul>	<ul style="list-style-type: none"> <li>Dose counter</li> <li>Locks closed when empty</li> <li>No need to wash</li> </ul>	<ul style="list-style-type: none"> <li>Dose indicator – notifies when 7 days’ supply left</li> <li>Locks when empty</li> <li>Clean once a week</li> <li>In use shelf life = 3 months</li> </ul>
<b>Cost</b>	££	££	££	££	£

Costing scale: £ = <£25.00, ££ = £25.00 to £30.00, £££ = >£30.00





## BNF 3.1.4 – Compound Bronchodilator Preparations (LAMA/LABA)

Combinations are an option where a separate LABA and LAMA inhaler would be prescribed – **please ensure you prescribe by brand.**

	Inhaler options			
	Acclidinium / Formoterol	Umeclidinium / Vilanterol	Glycopyrronium / Indacaterol	Tiotropium/Olodaterol
Brand name	Duaklir Genuair®	Anoro Ellipta®	Ultibro Breezhaler®	Spolto Respimat®
Device	Dry powder inhaler	Dry powder inhaler	Dry powder (capsule)	Solution for inhalation cartridge
				
Strengths	340 / 12 microgram	55 / 22 microgram	85 / 43 microgram	2.5 / 2.5 microgram
Adult COPD dose	The recommended dose is one inhalation twice daily.	The recommended dose is one inhalation once daily.	Inhalation of the content of one capsule once daily using the Ultibro Breezhaler inhaler.	The recommended dose is two inhalations once daily.
Steps to use the inhaler – ease of use	<p><b>4 step process</b></p> <ul style="list-style-type: none"> <li>Remove cap</li> <li>Press and release button to load dose</li> <li>Inhale dose</li> <li>Replace cap</li> </ul> <p>Indicator shows successful inhalation – repeat if necessary</p>	<p><b>3 step process</b></p> <ul style="list-style-type: none"> <li>Slide down cover to load dose</li> <li>Inhale dose</li> <li>Replace cover</li> </ul> <p>Indicator shows successful inhalation</p>	<p><b>7 Step process</b></p> <ul style="list-style-type: none"> <li>Remove capsule from blister pack</li> <li>Load capsule into inhaler</li> <li>Pierce capsule</li> <li>Inhale powder</li> <li>Check capsule empty</li> <li>Repeat inhalation if necessary</li> <li>Dispose of capsule</li> </ul>	<p><b>4 step process then repeat</b></p> <ul style="list-style-type: none"> <li>Turn the clear base in the direction of the label until it clicks (half a turn)</li> <li>Open the cap until it snaps fully open</li> <li>Whilst inhaling press the dose-release button and continue to inhale.</li> <li>Hold breath for 10 seconds</li> <li>Repeat steps for second dose</li> <li>Close cap once finished</li> </ul>
Miscellaneous information	<ul style="list-style-type: none"> <li>Dose counter</li> <li>Locks closed when empty</li> <li>No need to wash</li> </ul>	<ul style="list-style-type: none"> <li>Dose counter</li> <li>No need to wash</li> <li>“Click” heard when dose loaded</li> <li>In use shelf-life = 6 weeks</li> <li>If the inhaler cover is opened and closed without inhaling the dose, the dose will then be lost but securely held inside the inhaler</li> </ul>	<ul style="list-style-type: none"> <li>Powder taste and inhaler sound show inhaler working</li> <li>New inhaler with each pack of capsules – no cleaning</li> </ul>	<ul style="list-style-type: none"> <li>Dose indicator – notifies when 7 days' supply left</li> <li>Locks when empty</li> <li>Clean once a week</li> <li>In use shelf life = 3 months</li> </ul>
Cost	£££	£££	£££	£££

Costing scale: £ = <£25.00, ££ = £25.00 to £30.00, £££ = >£30.00

## BNF 3.2 – Corticosteroids – ICS/LABA combination inhalers - please ensure you prescribe by brand

	Inhaler options			
	Fluticasone fuorate / Vilanterol	Beclometasone / Formoterol	Beclometasone / Formoterol	Budesonide / Formoterol
Brand name	Relvar Ellipta®	Fostair®	Fostair NEXThaler®	DuoResp Spiromax®
Device	Dry powder	MDI	Dry powder	Dry powder
				
Strengths	92/22 microgram	100/6 microgram	100/6 microgram	160/4.5 microgram 320/9 microgram
Adult COPD dose	The recommended dose is one inhalation of 92/22 mcg once daily at the same time each day.  Relvar Ellipta®184/22 mcg is not indicated for patients with COPD.	The recommended dose is two inhalations twice a day – recommended to use via AeroChamber Plus spacer device	The recommended dose is two inhalations of 100/6 mcg twice daily.  Fostair NEXThaler® 200/6 mcg is not indicated for patients with COPD	The recommended dose is two inhalations twice daily of 160/4.5 mcg  <b>or</b> One inhalation twice daily of 320/9mcg
Steps to use the inhaler – ease of use	<b>3 step process</b> <ul style="list-style-type: none"> <li>Slide down cover to load dose. “Click” heard when dose loaded</li> <li>Inhale dose</li> <li>Replace cover</li> </ul> <p>Indicator shows successful inhalation</p>	<b>5 step process</b> <ul style="list-style-type: none"> <li>Remove cap</li> <li>Being to inhale, press down on the canister to release a dose</li> <li>Hold breath for as long as comfortably possible</li> <li>Repeat for second dose</li> <li>Replace cap</li> </ul>	<b>5 step process</b> <ul style="list-style-type: none"> <li>Open the cover fully to prepare the dose</li> <li>Inhale dose</li> <li>Hold breath for 5-10 seconds</li> <li>Repeat for second dose</li> <li>Replace cover fully once finished</li> </ul> <p>Indicator shows successful inhalation</p>	<b>5 step process</b> <ul style="list-style-type: none"> <li>Open the mouthpiece until a click is heard</li> <li>Breathe in forcefully and deep through the mouthpiece to inhale dose</li> <li>Hold breath for 10 seconds or as long as comfortably possible</li> <li>Repeat if necessary</li> <li>Close mouthpiece</li> </ul>
Miscellaneous information	<ul style="list-style-type: none"> <li>Inhaler is in 'closed' position when first removed from sealed tray</li> <li>Has a "discard by" date 6 weeks from the date of opening the tray.</li> <li>If the inhaler cover is opened and closed without inhaling the dose, the dose will then be lost.</li> <li>The lost dose will be securely held inside the inhaler, but it will no longer be available to be inhaled.</li> </ul>	<ul style="list-style-type: none"> <li>Stored in the fridge (before dispensing only) shelf life of 5 months after dispensing (out of fridge).</li> <li>New single dose counter.</li> <li>The only pressurised metered dose inhaler (pMDI) licensed for treatment of COPD and is suitable for use with the AeroChamber Plus spacer device.</li> <li>Small particle size – 100mcg dose is not bioequivalent to 100mcg BDP in other inhalers.</li> </ul>	<ul style="list-style-type: none"> <li>Shelf life of 6 months once opening the pouch.</li> </ul> <p>The dose will only be available for inhalation if the cover is fully opened. The patient should be advised to close the cover fully when not in use.</p>	<p>160/4.5 mcg is equivalent to a metered dose of 200 mcg budesonide /6 mcg of formoterol fumarate dihydrate.</p> <p>320/9 mcg is equivalent to a metered dose of 400 mcg budesonide/12 mcg of formoterol fumarate dihydrate</p> <ul style="list-style-type: none"> <li>Doesn't require priming.</li> </ul>
Cost	£	££	££	££

Costing scale: £ = &lt;£25.00, ££ = £25.00 to £30.00, £££ = &gt;£30.00