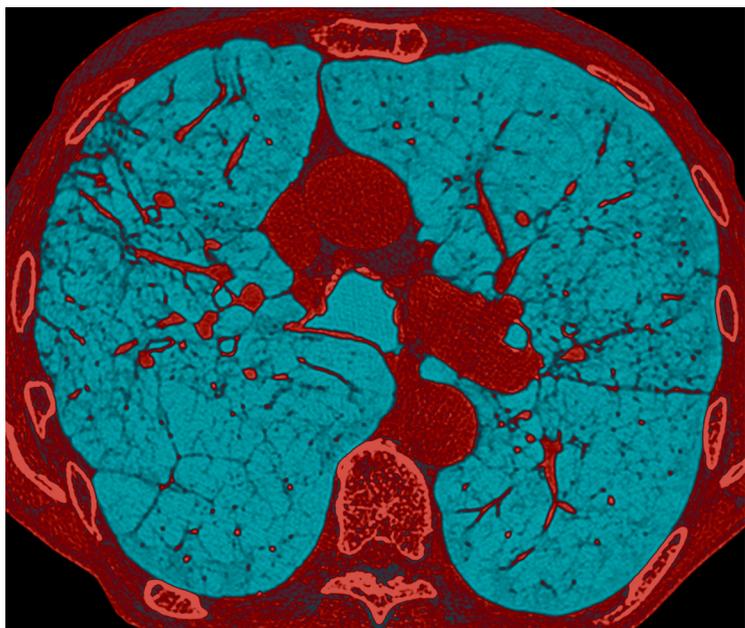# New ways of treating COPD: patient focused prescribing

A guide to selecting the right device for the appropriate patient. By **Beverley Bostock-Cox**

A CT scan showing the effects of COPD on the lungs

There are now four dual bronchodilators available on the market for the treatment of chronic obstructive pulmonary disease (COPD). Each inhaler includes a long acting Beta2 agonist (LABA) and a long acting muscarinic antagonist (LAMA). In this article we consider when they might be used, why they might help practice nurses to manage COPD, and how to select the right options.

The NICE guidelines for COPD were published in 2010 and have not been updated since then[1]. In contrast the Global Initiative for Obstructive Lung Disease (GOLD) guidelines are updated each year and include some of the current thinking regarding managing this condition, which has a severe burden of morbidity and mortality[2]. For some time it has been recognised that people

with COPD can present in different ways and that it's not a homogenous disease. For example, some patients suffer from breathlessness but tend not to have problems with exacerbations; while others will suffer from recurrent exacerbations a couple of times a year or more.

This has led to an interest in taking different approaches to managing COPD, based on these different presentations. Whereas NICE guidelines base decisions on treatment on lung function, followed by symptoms and exacerbations, GOLD guidelines encourage clinicians to look at symptom burden and exacerbations to guide prescribing.

The GOLD ABCD algorithm (Box 1) asks clinicians to score the patient based on their modified (European version, scored from 0-4 rather than the UK's 1-5) MRC score or their COPD Assessment Test score

and then to add in the number of exacerbations suffered in the past 12 months to determine which category the patient belongs to. The GOLD guidelines then give examples of which treatment to use based on whether the patient is allocated to category A, B, C, D (Box 2).

Dual bronchodilators are offered first line to people in category B (heavy symptom burden with high mMRC or CAT scores but less than two exacerbations in the past 12 months) and as an add in second line for all other categories. This makes them a treatment class that practice nurses should be aware of. Because NICE guidelines have not been updated for several years, dual bronchodilators are not only not included by NICE but are actively advised against, with the inhaled therapies algorithm stating that 'the use of a LAMA and a LABA should only be considered when an ICS is declined or not tolerated'.
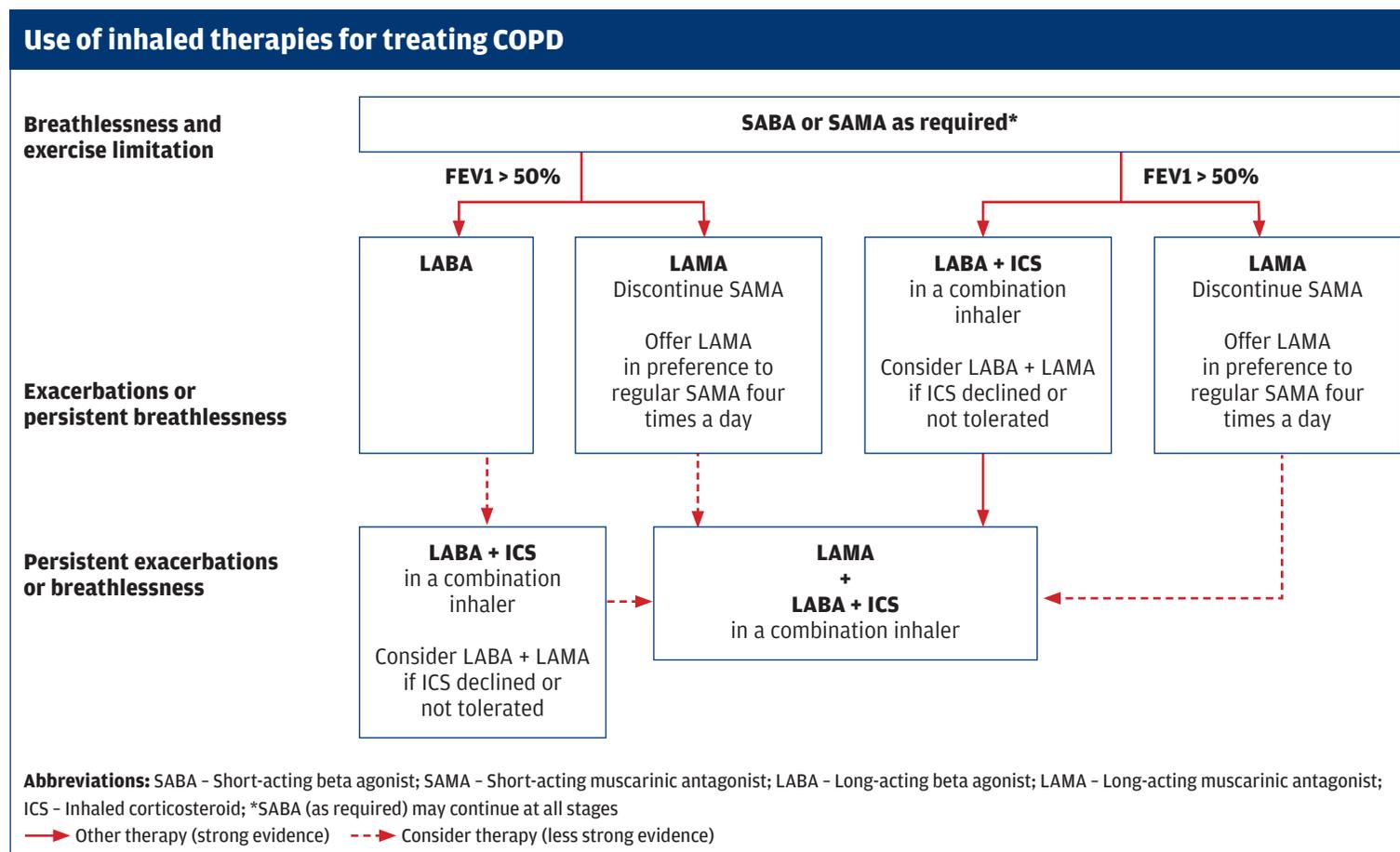
Interestingly, a patient with an FEV_1 of 48% predicted who has dyspnoea but no history of exacerbations would be offered a combination inhaler (inhaled

corticosteroids [ICS] and LABA) by NICE whereas the GOLD guidelines would not have an ICS/LABA even as a third line option. It is now thought that too many people are on combination therapies (inhaled corticosteroids and LABAs) who do not have a history of exacerbations and who may be being exposed to the possible risks of ICS (including pneumonia and diabetes) without the benefits, which studies tell us are primarily in preventing further exacerbations[3].

So why would a dual bronchodilator offer more than a single bronchodilator in COPD? Well, the two classes of bronchodilators, LABAs and LAMAs, work on different pathways and have different modes of actions. LABAs facilitate bronchodilation via the sympathetic nervous system[4] whereas LAMAs prevent bronchoconstriction via the parasympathetic nervous system[5]. These two complementary actions allow for maximum bronchodilation, as well as reduced lung hyperinflation in patients with

Box 1: The GOLD ABCD Algorithim

RISK — NICE or GOLD classification of Airflow Limitation	4 3	**C**	**D**	> 2
	2 1	**A**	**B**	1 0
		mMRC 0-1 CAT < 10	mMRC > 2 CAT >10	RISK — Exacerbation History
		SYMPTOMS mMRC or CAT score		

Use of inhaled therapies for treating COPD

Breathlessness and exercise limitation	**SABA or SAMA as required***

FEV1 > 50%   FEV1 > 50%

Exacerbations or persistent breathlessness

LABA	**LAMA** Discontinue SAMA Offer LAMA in preference to regular SAMA four times a day	**LABA + ICS** in a combination inhaler Consider LABA + LAMA if ICS declined or not tolerated	**LAMA** Discontinue SAMA Offer LAMA in preference to regular SAMA four times a day

Persistent exacerbations or breathlessness

LABA + ICS in a combination inhaler Consider LABA + LAMA if ICS declined or not tolerated	**LAMA + LABA + ICS** in a combination inhaler

Abbreviations: SABA – Short-acting beta agonist; SAMA – Short-acting muscarinic antagonist; LABA – Long-acting beta agonist; LAMA – Long-acting muscarinic antagonist; ICS – Inhaled corticosteroid; *SABA (as required) may continue at all stages

→ Other therapy (strong evidence)   - - → Consider therapy (less strong evidence)

COPD thus alleviating shortness of breath.

Although there may be some difference between products in terms of trial data, they all tend to have the same mode of action and indication for the relief of breathlessness. In many ways, the decision as to which to use may come down to patient choice (eg for a once daily or twice daily treatment option or preference for a certain device), ability to use the device and, to a lesser extent, recommendations on local formularies. In respect of this last point, however, practice nurses should remain mindful of the four Ps of the NMC Code of Conduct, the first of which is 'prioritise the person'. Formularies are written for populations and while they are good for a 'rule of thumb' they can't provide the personalised approach which practice nurses do.

- Prioritise people
- Practise effectively
- Preserve safety
- Promote professionalism and trust[6]

In simple terms, then, the decision regarding how to treat a person's COPD will be reached by following this straightforward algorithm:

- Calculate mMRC or CAT test score
- Establish the number of exacerbations (reported or unreported) in the past year
- Work out where the patient sits in the GOLD ABCD algorithm
- Identify which class of treatment they need
- Select the right treatment based on device, frequency of dosing and any other appropriate considerations (for example, if a dual bronchodilator is required only Anoro and Duaklir are licensed in renal impairment)
- Teach inhaler technique, arrange review in one month to assess the impact of treatment on symptoms

Conclusion

In summary, then, dual bronchodilators have much to offer the breathless patient either instead of or alongside other therapies. With four entirely different products available the practice nurse has the opportunity to offer the most appropriate choice to each individual patient. Depending on the category into which each individual falls, there is an opportunity to ensure patients with COPD get the best possible treatment option which optimises benefits whilst reducing risks.

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References
COPD Assessment Test. www.catestonline.org

References
1. NICE COPD Guidelines. 2010. CG101. www.nice.org.uk
2. GOLD. COPD guidelines. 2015. www.goldcopd.org.
3. Hurst JR et al. Evaluation of COPD Longitudinally to Identify Predictive Surrogate End-points (ECLIPSE) investigators Susceptibility to Exacerbation in Chronic Obstructive Pulmonary Disease. *N Engl J Med*; 2010; 363:1128-1138
4. Wedzicha JA, et al. *Eur Respir J*. 2012.
5. Scullion JE. *Int J Chron Obstruct Pulmon Dis*. 2007;2:33–40
6. Nursing and Midwifery Council. How to revalidate. 2015. http://www.nmc.org.uk/globalassets/sitedocuments/revalidation/how-to-revalidate-print-friendly-version.pdf

Box2: Possible treatment choices for COPD

A	SABA, SAMA	LAMA, LABA	Theophylline
B	LABA, LAMA	Dual LAMA/LABA	Theophylline
C	ICS/LABA, LAMA	Dual LAMA/LABA PDE4 inhibitor?	Theophylline
D	ICS/LABA, and/or LAMA	Dual LAMA/LABA; triple rx, ICS/LABA PDE4 inhibitor?	Carbocysteine Theophylline