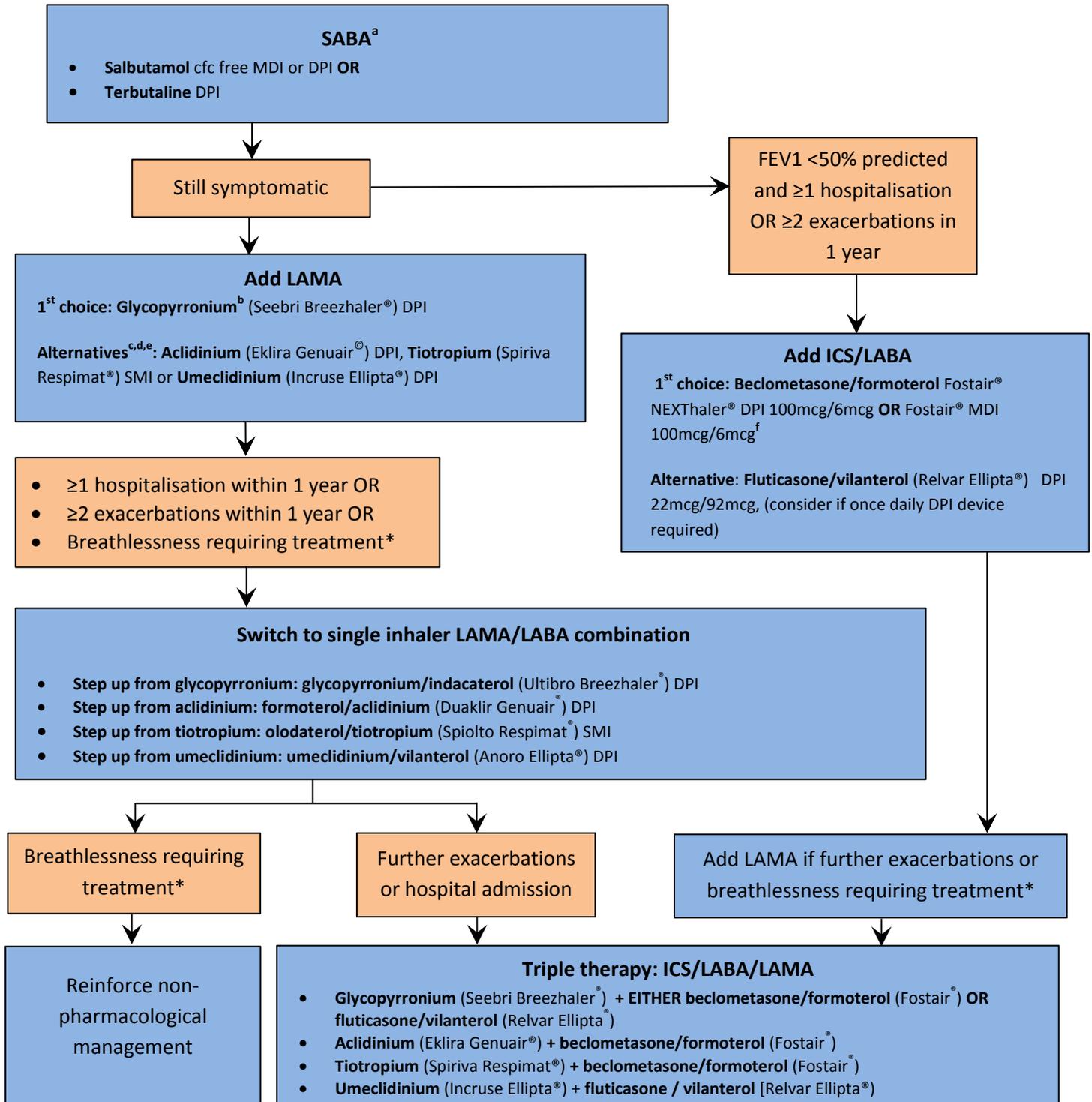


## Inhaler therapy options for patients with COPD

**Non-pharmacological options for ALL patients, consider at all stages (please see page 3):**

- Inhaler technique
- Smoking cessation
- Assess co-morbidities
- Encourage Exercise
- Annual flu vaccination
- Pulmonary rehabilitation
- Measure oxygen saturation



\* MRC Dyspnoea scale  $\geq 3$  can be used to measure dyspnoea level for step-up treatment

## Footnotes

<sup>a</sup> Patients intolerant of a SABA may be initiated on a short or long-acting antimuscarinic [SAMA or LAMA].

<sup>b</sup> The first choice initial LAMA is guided by a preference to use glycopyrronium/indacaterol if step up is required. This recommendation has been made based on the large body of clinical evidence supporting the effects of glycopyrronium/indacaterol on relevant clinical outcomes including symptoms and exacerbations. Alternative choices can be made based on a preference for a different inhaler device, or twice a day dosing.

<sup>c,d,e</sup> Patients who require twice daily dosing or a multidose DPI can use aclidinium (Eklira Genuair<sup>®</sup>) DPI. Patients requiring a non-DPI device can use tiotropium (Spiriva Respimat<sup>®</sup>) soft-mist inhaler. For patients who are intolerant to a LAMA, try a LABA; indacaterol (Onbrez Breezhaler<sup>®</sup>) is preferred.

<sup>f</sup> Beclometasone / formoterol is available as an MDI and DPI. Some severe COPD patients might prefer to use an MDI with a spacer. The choice of which beclometasone / formoterol device to use as part of triple therapy should match to the LAMA device if possible e.g. use DPI with glycopyrronium or aclidinium, use MDI with tiotropium.

These treatment recommendations are suitable for newly diagnosed COPD patients. For COPD patients already established on treatment, then the recommendations here may also be used in cases where symptoms and / or exacerbations require a change in treatment, or cost reduction is being considered. This list of inhaler therapy options is not intended to be used to change therapy if it is working well nor to completely rule out any device.

## Non-Pharmacological Treatment Guide

- Inhaler technique: This should be reviewed regularly and always before increasing treatment.
- Common errors with an MDI include not shaking the device before use, poor co-ordination and inhaling too quickly.
- Common errors relating to dry powder inhalers (DPI) are inhaling too slowly and priming/positioning errors.
  - Good Practice Point: Consider adding a spacer device for use with MDI. Instruction for inhaling via a MDI should be “gentle and deep”. Instruction for inhaling via a DPI should be “forceful and deep”.
  - Resource: educational podcasts which show correct technique for each device are available at [www.wessexahsn.org.uk/videos](http://www.wessexahsn.org.uk/videos)
- Pulmonary rehabilitation: Patients should be referred if they have exercise limitation due to breathlessness (NICE Quality Standard, 2016). This is usually MRC 3 or greater. Main contraindications include uncontrolled cardiovascular disease, significant balance/gait disorders and significant cognitive impairment.
  - Resource: [Video clip showing patients participating in and talking about their experience of pulmonary rehabilitation.](#)
- Smoking Cessation: Take every opportunity to discuss the benefits of stopping smoking and offer support to quit.
- Oxygen referral: Patients with a persistent, resting, stable SpO<sub>2</sub> of ≤92% should be referred for home oxygen assessment. COPD treatment should be optimised prior to referral. Consider referral for patients with SpO<sub>2</sub> of ≤94% where there is evidence of polycythaemia (haematocrit ≥55% in males or ≥47% in females), peripheral oedema or pulmonary hypertension.
- Self-Management Plan & Rescue Pack: A self-management plan should be given to all patients. Rescue packs are suitable for some patients e.g. patients who are able to identify own symptoms of an exacerbation and act promptly, patients who are unlikely to overuse with repeated courses of steroids, patients who have had proper education on self-management etc.
- Consider and treat co-morbid disease e.g. consider screening for anxiety and depression (for example using PHQ-9 & GAD-7). Cognitive behaviour therapy can be useful.
- Consider conversations about advance care planning and end of life care with referral to specialist teams as appropriate. Ensure these patients are on the [Gold Standards Framework register](#) as appropriate. Refer to local palliative care guidance

## **COPD: Important Principles to Guide Treatment**

### **FEV1**

Spirometry is needed to make the diagnosis of COPD. FEV1 can be used to measure worsening or improvement in patients.

However, the majority of treatment decisions regarding bronchodilators and ICS should be based on *symptoms* and *exacerbations*, not FEV1.

### **Stepwise approach to treatment**

Most patients can be treated with a stepwise escalation of pharmacotherapy, adding in one extra drug at a time (not two). This has the advantage of being able to assess the response to each drug, and preventing overtreatment. In general, a threshold of 2 or more exacerbations or one hospitalisation in the last year can be used to step up treatment

### **Initial COPD treatment**

Newly diagnosed COPD patients should be treated with a SABA initially. The next step (if needed) should be the addition of a LAMA; these drugs improve symptoms and reduce exacerbations.

The only exception is patients with FEV1<50% and  $\geq 2$  exacerbations who may start on ICS / LABA immediately.

### **Dual Bronchodilator Combinations**

Patients who are breathless or suffering with exacerbations, despite treatment with a LAMA can be stepped up to receive a combination inhaler containing a LABA + LAMA. These combination inhalers reduce symptoms and exacerbations.

### **Triple therapy step down**

Historically, some patients have been treated with ICS+LABA+LAMA, but have never suffered with exacerbations. Most of these patients can be safely treated with LABA+LAMA alone, as ICS are indicated only in patients with regular exacerbations. For patients with FEV1>50%, and who have never suffered with exacerbations, ICS can be stopped and the patient switched to a LABA+LAMA combination. However, there is currently insufficient evidence to guide whether this stop should be immediate or stepped down. Consider individual patient circumstances [e.g. dose and duration of treatment] and a step down approach may require temporary use of a preparation without a marketing authorisation for use in COPD.

## Criteria for referral to Specialist Respiratory Team including Community Services

For patients with frequent exacerbations despite optimal primary care management, seek advice from a specialist respiratory team, which may be located within a community service.

Reason	Purpose
Diagnostic uncertainty	Confirm diagnosis and optimise therapy
Patients requiring > 3 courses of steroids or antibiotics in a 12 month period*	For patients with frequent exacerbations seek advice from a specialist respiratory team
Frequent chest infections*	Exclude bronchiectasis
Co morbidity or secondary illness causing deterioration	Arrange Echo / BNP / CXR and ask for specialist advice
Onset of cor pulmonale (Hypoxia / Cyanosis / signs of heart failure or low SPO <sub>2</sub> )	Confirm diagnosis and optimise therapy - Referral for LTOT Assessment
Assessment for oral corticosteroid therapy	Justify need for long term treatment or supervise withdrawal
A rapid decline in FEV1	Encourage early intervention
Assessment for lung volume reduction treatments	Identify candidates for surgery and newer endobronchial treatments
Assessment for lung transplantation	Identify candidates for surgery
Dysfunctional breathing	Confirm diagnosis, optimise pharmacotherapy and access other therapists
Aged under 40 years or a family history of alpha1-antitrypsin deficiency	Identify alpha1-antitrypsin deficiency, consider therapy and screen therapy
Symptoms disproportionate to lung function deficit	Look for other explanations
Haemoptysis	Exclude carcinoma of the bronchus

\*For patients with recurrent exacerbations requiring antibiotics and / or corticosteroids, careful investigation of infection is needed. Patient education is also important. Seek specialist advice if needed. In general, consider local community options before secondary care.

## **Terminology and abbreviations**

DPI - dry powder inhaler

Exacerbation - worsening of disease requiring oral corticosteroid treatment

ICS - inhaled corticosteroids

LABA - long acting beta agonist

LAMA - long acting muscarinic antagonist

Mcg - micrograms

MDI - metered dose inhaler

MRC Dyspnoea scale - Medical Research Council Dyspnoea Scale

SABA - short acting beta agonist

SMI - soft-mist inhaler