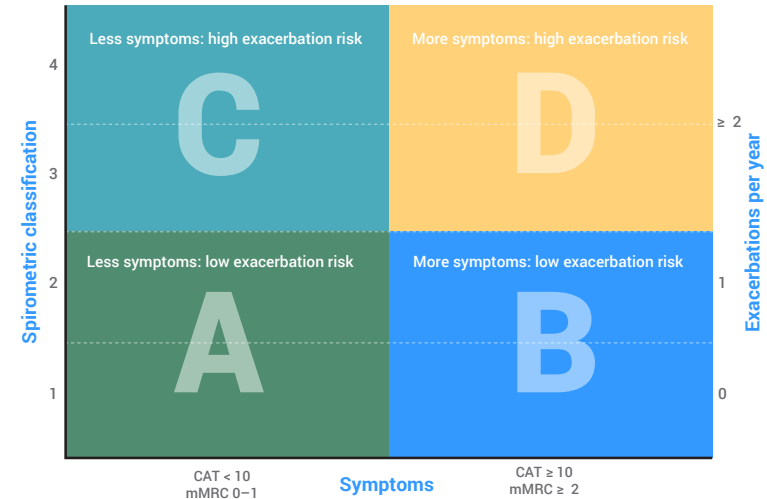




## The COPD prescribing tool

This tool provides pharmacological treatment options for patients with COPD based on their symptom severity. Choose **Patient category A, B, C or D** which corresponds to the severity of the patient's symptoms. Assessment criteria are taken from the Global Strategy for the Diagnosis, Management and Prevention of COPD (GOLD 2016).<sup>\*</sup> Additional information on classifying severity of symptoms is provided below.



### Patient classification table

Patient category	Characteristics	Exacerbations per year	Spirometric classification	mMRC	CAT
<b>A</b>	Less symptoms: low exacerbation risk	≤ 1 not leading to hospitalisation	GOLD 1–2 FEV <sub>1</sub> ≥ 50% predicted	0–1	< 10
<b>B</b>	More symptoms: low exacerbation risk	≤ 1 not leading to hospitalisation	GOLD 1–2 FEV <sub>1</sub> ≥ 50% predicted	≥ 2	≥ 10
<b>C</b>	Less symptoms: high exacerbation risk	≥ 2, or 1 requiring hospitalisation	GOLD 3–4 FEV <sub>1</sub> < 50% predicted	0–1	< 10
<b>D</b>	More symptoms: high exacerbation risk	≥ 2, or 1 requiring hospitalisation	GOLD 3–4 FEV <sub>1</sub> < 50% predicted	≥ 2	≥ 10

### Exacerbations

An exacerbation is an acute event with worsening of symptoms, beyond normal day-to-day variation, that requires a change in medication. If a patient has been admitted to hospital in the previous 12 months due to a COPD exacerbation then they are considered high risk.

<sup>\*</sup> Recent bpac<sup>nz</sup> articles have used a three-stage assessment criteria for patients with COPD based on COPD-X.

# THE COPD PRESCRIBING TOOL

## Spirometric classification

Severity of airflow limitation in COPD based on post-bronchodilator FEV<sub>1</sub> in patients with an FEV<sub>1</sub>/FVC < 0.7:

Category	Severity	FEV <sub>1</sub>
GOLD 1	Mild	FEV <sub>1</sub> ≥ 80% predicted
GOLD 2	Moderate	50% ≤ FEV <sub>1</sub> < 80% predicted
GOLD 3	Severe	30% ≤ FEV <sub>1</sub> < 50% predicted
GOLD 4	Very severe	FEV <sub>1</sub> < 30% predicted

## CAT

The COPD Assessment Test (CAT) is designed to quantify how COPD affects a patient's life and how this changes over time. CAT comprises eight questions and provides a measure of health status ranging from 0–40 and is available from: [www.catestonline.org/english/indexEN.htm](http://www.catestonline.org/english/indexEN.htm)

## mMRC

The modified Medical Research Council (mMRC) questionnaire for assessing the severity of breathlessness.

mMRC Grade	Symptoms
0	I only get breathless with strenuous exercise
1	I get short of breath when hurrying on the level or walking up a slight hill
2	I walk slower than people of the same age on flat ground because of breathlessness, or I have to stop for breath when walking on my own pace on the level.
3	I stop for breath after walking about 100 metres or after a few minutes on the level.
4	I am too breathless to leave the house or I am breathless when dressing or undressing

## Device information

**MDI** – Spacers are recommended for all patients prescribed a MDI, especially for those unable to hold their breath after inhaling. Reasonable hand strength is required to dispense each dose.

**DPI** – Sufficient inspiratory flow is required to activate this device and deliver the medicine. Reasonable hand strength is required to twist the base of the device to load each dose.

**Accuhaler** – Requires sufficient inspiratory flow to activate device and deliver the medicine.

**Breezhaler** – Capsules must be loaded before each use, requiring good eyesight and dexterity. Sufficient inspiratory flow is required to achieve optimal delivery of the medicine.

**Foradil capsules via Aerolizer device** – Capsules must be loaded before each use, requiring good eyesight and dexterity. More than one inhalation is usually required to obtain a full dose from a capsule.

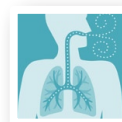
**Ellipta** – Breath activated device with medicine automatically loaded when device is opened. Sufficient inspiratory flow is required for optimal delivery of the medicine. Low dexterity is required to use this device.

**Handihaler device with Spiriva capsules** – Capsules must be loaded for each dose which requires good eyesight and hand coordination. More than one breath is usually required to obtain a full dose from a capsule.

**Respimat** – Medicine is delivered via a fine mist independent of inspiratory flow. This device requires insertion of a medicine cartridge at each prescription, which requires some strength and dexterity. The device must be twisted to load each dose, and a button depressed to release medicine.

**Acknowledgement** Thank you to **Dr Ben Brockway**, Consultant & Senior Lecturer in Respiratory Medicine Southern DHB and University of Otago, for assistance in producing this resource.

We welcome your feedback about this tool. Email your comments to: [contact@bpac.org.nz](mailto:contact@bpac.org.nz)



For the online version of this tool see the bpac<sup>nz</sup> website:

[www.bpac.org.nz/copd](http://www.bpac.org.nz/copd)



## Less symptoms: low exacerbation risk

Spirometric classification: GOLD 1–2  
Exacerbations per year: ≤ 1 not leading to hospitalisation  
mMRC: 0–1  
CAT: < 10

Prescribe a **SAMA** OR a **SABA** for “as needed” use by patients with COPD who have few symptoms and a low risk of exacerbations.

For some patients in this category a fixed-dose combination **SAMA/SABA** for “as needed” use may be beneficial.

### SAMA – short-acting muscarinic antagonists

#### Ipratropium ●

Two puffs, as needed, up to four times daily.

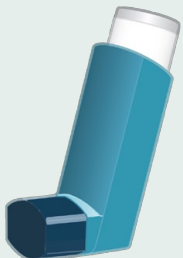


Atrovent MDI

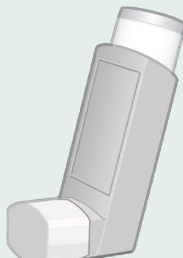
### SABA – short-acting beta<sub>2</sub> agonists

#### Salbutamol ●

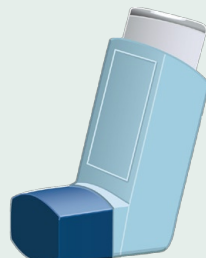
One to two puffs, as needed, up to four times daily.



Respigen MDI



Salair MDI



Salamol MDI



Ventolin MDI

### SABA continued

#### Terbutaline ●

One to two inhalations, as needed, up to four times daily.



Bricanyl Turbuhaler DPI

### Combination SABA & SAMA

#### Ipratropium + salbutamol ●

Two puffs, as needed, four times daily.



Duolin MDI

● Fully subsidised without restriction

# B

## More symptoms: low exacerbation risk

Spirometric classification: GOLD 1-2  
 Exacerbations per year: ≤ 1 not leading to hospitalisation  
 mMRC: ≥ 2  
 CAT: ≥ 10

Add a **LABA** OR a **LAMA** for patients with mild to moderate COPD and persistent troublesome dyspnoea who do not have adequate symptom control using a short-acting bronchodilator.

For patients unable to achieve symptom control with a single long-acting bronchodilator consider a **combination LABA/LAMA** inhaler.

### LABA –long-acting beta<sub>2</sub> agonists

#### Salmeterol ●

Two puffs, twice daily.



Meterol  
MDI

#### Salmeterol ●

Two puffs, twice daily.



Serevent  
MDI

#### Salmeterol ●

One inhalation, twice daily.



Serevent Accuhaler

#### Indacaterol ●

One inhalation of 150 mg or 300 mg, once daily.



Breezhaler device with  
Onbrez capsules

#### Formoterol (eformoterol) ○

One inhalation of 12 micrograms, once daily or twice daily.



Foradil capsules via Aerolizer device

#### Formoterol (eformoterol) ○

Two inhalations of 6 micrograms, twice daily.



Oxis Turbuhaler  
DPI

● Fully subsidised without restriction ○ Partially subsidised without restriction

**Foradil and Oxis are NOT dose equivalent.** Oxis contains 6 micrograms per dose. Foradil contains 12 micrograms per capsule for inhalation.

### LAMA – long-acting muscarinic antagonists

#### Glycopyrronium ●

One inhalation, once daily.



Breezhaler device with  
Seebri capsules

#### Umeclidinium ●

One inhalation, once daily.



Incruse Ellipta

#### Tiotropium ●

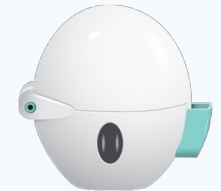
Two puffs, once daily. MDI delivered as a mist (non-propellant).



Spirova Respimat

#### Tiotropium ●

One inhalation, once daily.



Handihaler device with  
Spirova capsules

● Prescription endorsement required for full subsidy ○ Special Authority approval required for full subsidy

**Reminder:** Stop SAMA treatment when prescribing a LAMA

### Combination LAMA/LABAs

#### Glycopyrronium + indacaterol ●

One inhalation, once daily.



Breezhaler device with Ultibro  
capsules

#### Olodaterol + tiotropium ●

Two puffs, once daily. MDI delivered as a mist (non-propellant).



Spiolto Respimat

#### Umeclidinium + vilanterol ●

One inhalation, once daily.



Anoro Ellipta

● Special Authority approval required for full subsidy



## Less symptoms: high exacerbation risk

Spirometric classification: GOLD 3–4  
Exacerbations per year:  $\geq 2$  or 1 requiring hospitalisation  
mMRC: 0–1  
CAT:  $< 10$

Prescribe a fixed-dose **combination ICS/LABA** OR a **LAMA** for patients who have few symptoms but a high risk of exacerbations.

An alternative treatment option is a **combination LABA/LAMA**.

### Combination ICS & LABA

#### Fluticasone (furoate) + vilanterol ●

One inhalation, once daily.  
Fluticasone furoate 100 micrograms + vilanterol 25 micrograms (for COPD and asthma).



Breo Ellipta (100 + 25)

#### Budesonide + formoterol ●

Two inhalations of 200 + 6, twice daily, OR One inhalation of 400 + 12 micrograms, twice daily.



Symbicort Turbuhaler **DPI**  
(200 + 6 or 400 + 12)

#### Budesonide + formoterol ●

Two puffs of 200 + 6 micrograms, twice daily.



Vannair (200 + 6) **MDI**

- Fluticasone furoate 200 micrograms + vilanterol 25 micrograms is for asthma only.
- Budesonide is half as potent as fluticasone therefore equivalence requires twice the strength per dose.
- Fluticasone furoate 100 micrograms inhaled ONCE daily is approximately equivalent to fluticasone propionate 250 micrograms TWICE daily.

#### Fluticasone (propionate) + salmeterol ●

Two puffs of 125 + 25 micrograms (or up to two puffs of 250 + 25 micrograms unsubsidised), twice daily.



Rexair, Seretide 125 + 25 (or 250 + 25) **MDI**



#### Fluticasone (propionate) + salmeterol ●

One inhalation of 250 + 50 micrograms, twice daily



Seretide Accuhaler

● Fully subsidised without restriction



- Rexair and Seretide MDI are not dose equivalent with Seretide DPI Accuhaler because MDIs contain salmeterol 25 micrograms compared with Accuhalers which contain salmeterol 50 micrograms
- MDI inhaler: TWO puffs, twice daily; or Accuhaler: ONE inhalation, twice daily
- If additional inhaled corticosteroids (ICS) are required, change to the higher strength formulation or add a separate ICS

### LAMA – long-acting muscarinic antagonists

#### Glycopyrronium ●

One inhalation, once daily.



Breezhaler device with Seebri capsules

#### Umeclidinium ●

One inhalation, once daily.



Incruse Ellipta

#### Tiotropium ●

Two puffs, once daily. MDI delivered as a mist that does not include propellants.



Spiriva Respimat

#### Tiotropium ●

One inhalation, once daily.



Handihaler device with Spiriva capsules

● Prescription endorsement required for full subsidy ● Special Authority approval required for full subsidy

**Reminder:** Stop SAMA treatment when prescribing a LAMA

### Combination LAMA/LABAs

#### Glycopyrronium + indacaterol ●

One inhalation, once daily.



Breezhaler device with Ultibro capsules

#### Olodaterol + tiotropium ●

Two puffs, once daily. MDI delivered as a mist that does not include propellants.



Spiolto Respimat

#### Umeclidinium + vilanterol ●

One inhalation, once daily.



Anoro Ellipta

● Special Authority approval required for full subsidy





## More symptoms: high exacerbation risk

Spirometric classification: GOLD 3–4  
Exacerbations per year:  $\geq 2$  or 1 requiring hospitalisation  
mMRC:  $\geq 2$   
CAT:  $\geq 10$

Prescribe a fixed-dose **combination ICS/LABA** OR a **LAMA** for patients who have many symptoms but a high risk of exacerbations.

For patients without adequate symptom control a fixed-dose **combination ICS/LABA AND** a **LAMA** is a further treatment option.

### Combination ICS & LABA

#### Fluticasone (furoate) + vilanterol ●

One inhalation, once daily. Fluticasone furoate 100 micrograms + vilanterol 25 micrograms (for COPD and asthma).



Breo Ellipta (100 + 25)

#### Budesonide + formoterol ●

Two inhalations of 200 + 6, twice daily, **OR** One inhalation of 400 + 12 micrograms, twice daily.



Symbicort Turbuhaler **DPI**  
(200 + 6 or 400 + 12)

#### Budesonide + formoterol ●

Two puffs of 200 + 6 micrograms, twice daily.



Vannair (200 + 6) **MDI**

● Fully subsidised without restriction

- Fluticasone furoate 200 micrograms + vilanterol 25 micrograms is for asthma only.
- Budesonide is half as potent as fluticasone therefore equivalence requires twice the strength per dose.
- Fluticasone furoate 100 micrograms inhaled ONCE daily is approximately equivalent to fluticasone propionate 250 micrograms TWICE daily.

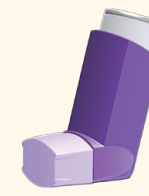
### Combination ICS & LABA continued

#### Fluticasone (propionate) + salmeterol ●

Two puffs of 125 + 25 micrograms (or up to two puffs of 250 + 25 micrograms unsubsidised), twice daily.



Rexair, Seretide 125 + 25 (or 250 + 25)  
Seretide **MDI**



#### Fluticasone (propionate) + salmeterol ●

One inhalation of 250 + 50 micrograms, twice daily.



Seretide Accuhaler

● Fully subsidised without restriction



- Rexair and Seretide MDI are not dose equivalent with Seretide DPI Accuhaler because MDIs contain salmeterol 25 micrograms compared with Accuhalers which contain salmeterol 50 micrograms
- MDI inhaler: TWO puffs, twice daily; or Accuhaler: ONE inhalation, twice daily
- If additional inhaled corticosteroids (ICS) are required, change to the higher strength formulation or add a separate ICS

### LAMA – long-acting muscarinic antagonists

#### Glycopyrronium ●

One inhalation, once daily.



Breezhaler device with Seebri capsules

#### Umeclidinium ●

One inhalation, once daily.



Incruse Ellipta

#### Tiotropium ●

Two puffs, once daily. MDI delivered as a mist that does not include propellants.



Spiriva Respimat

#### Tiotropium ●

One inhalation, once daily.



Handihaler device with Spiriva capsules

● Prescription endorsement required for full subsidy ● Special Authority approval required for full subsidy

**Reminder:** Stop SAMA treatment when prescribing a LAMA