COPD – B-QuiCK BOARD REVIEW (NZ)

1 WHO TO SUSPECT

Age >40 + significant exposure to cigarette smoke, dust, fumes, gas or recurrent respiratory infections AND typical symptoms:

- Persistent exertional dyspnoea
- Chronic cough
- Sputum
- Chest tightness, wheeze
- Fatigue

Severe disease may have: weight loss, muscle loss, anorexia, anxiety/depression.

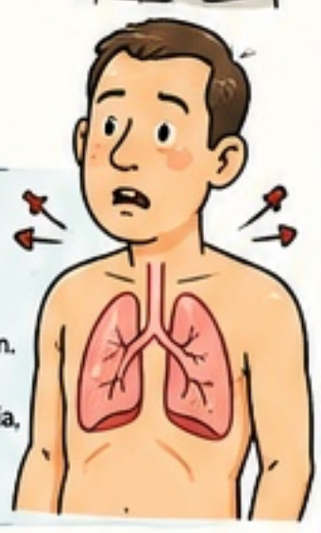
2 HISTORY & EXAM

ASK ABOUT:

- ✓ Exposures
- ✓ Previous respiratory disease
- ✓ Family history
- ✓ Symptom pattern
- ✓ Prior admissions/exacerbations
- ✓ Comorbidities
- ✓ Impact on life
- ✓ Trigger reduction
- ✓ Social support

EXAM SIGNS

- **Advanced disease:** hyperinflation, hyperresonance, reduced expansion, soft breath sounds, prolonged expiration.
- **Exacerbation:** tachypnoea, tachycardia, accessory muscles, cyanosis.



3 CONFIRM DIAGNOSIS

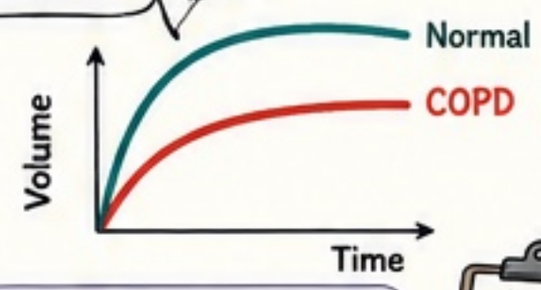
Spirometry is ESSENTIAL.

Post-bronchodilator:

- **FEV_1 <80% predicted AND**
- **FEV_1/FVC <0.7**

= persistent airflow limitation confirms COPD.

Symptom burden and spirometry may not correlate.



Use mMRC and CAT. Consider treatment when mMRC ≥2 or CAT ≥10.

4 BASELINE TESTS

- **FBC** including eosinophils/ polycythaemia
- **Pulse oximetry**
- **BNP** if heart failure suspected
- **ECG**
- **CXR** not routine
- **Alpha-1 antitrypsin** in younger patients or disproportionate disease / persistent abnormal LFTs

5 DIFFERENTIAL DIAGNOSES

- Asthma
- Bronchiectasis
- Heart failure
- Respiratory infection
- Pulmonary embolism
- Interstitial lung disease
- Lung cancer
- Tuberculosis

COPD vs ASTHMA

COPD	ASTHMA
	
• Older	• Variable
• Cigarette smoke/ exposure	• Often atopy/ childhood but any age
• Symptoms continuous, progressive	• Symptoms vary over time

6 NON-DRUG CORE (DO FOR ALL)

- **Smoking cessation** is MOST IMPORTANT to improve symptoms and slow progression.
- Increase physical activity, healthy weight
- Optimise comorbidities
- Pulmonary rehabilitation
- Respiratory physiotherapy
- Written COPD action plan
- **Immunisation review:** Influenza, COVID-19, pneumococcal; consider pertussis/RSV/zoster when appropriate.

7 PHARMACOLOGY — STEP UP BASED ON SYMPTOMS & EXACERBATIONS

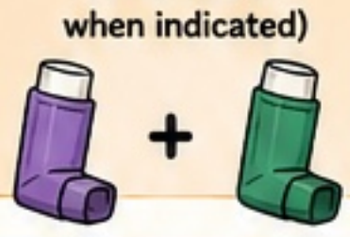
STEP 1
Short-acting bronchodilator for relief

→

STEP 2
Add long-acting bronchodilator (LABA or LAMA)

→

STEP 3
LABA + LAMA (preferred combination when indicated)



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STEP 4
LABA + LAMA + ICS (Triple therapy) esp. for exacerbation-prone/eosinophilic patients

- Do **NOT** use SAMA and LAMA concurrently.
- Improvement in dyspnoea may take up to 6 weeks.
- Assess exacerbation frequency over 6–12 months.
- Triple therapy single inhaler preferred when criteria met.

ICS WITHDRAWAL CAN BE CONSIDERED IF:

- No benefit
- Pneumonia or other adverse effects
- Stable for 12 months with no exacerbations

→ **CAUTION** if eosinophils ≥0.3 × 10^9/L. Reassess 4–6 weeks after withdrawal.

8 FOLLOW-UP

Stable patients: at least annually; more often if severe/comorbid.

EVERY REVIEW:

- ✓ Adherence
- ✓ Inhaler technique
- ✓ Non-pharmacological measures
- ✓ CAT/symptoms
- ✓ Exacerbations
- ✓ Smoking
- ✓ Vaccinations
- ✓ Comorbidities

If treatment changed, reassess around 6 weeks.

9 EXACERBATION — ACT EARLY!

MANAGEMENT (FIRST-LINE)

- SABA

Continue maintenance bronchodilator and ICS

- Antibiotics if features suggest bacterial infection

Consider prednisone 40 mg once daily for 5 days for moderate–severe exacerbation.

CONSIDER HOSPITAL REFERRAL IF:

- Insufficient response to treatment
- Sudden worsening
- Confusion or drowsiness
- Cyanosis or peripheral oedema
- SpO_2 <85–90%
- Significant comorbidity or new arrhythmia
- Unsafe home circumstances

Recovery may take up to 6 weeks. Review overall management after EVERY exacerbation and refer for pulmonary rehab unless recently completed/contraindicated.

BOARD PEARLS

Spirometry confirms COPD

Symptoms ≠ spirometry severity

Smoking cessation changes trajectory

Check inhaler technique before escalating

SAMA + LAMA = NO

Exacerbation steroid: prednisone 40 mg × 5 days

Clinical Oriented Summary Of Commonly Used Pharmacological COPD Treatments Currently Available/Funded In New Zealand

checked against the NZ COPD Guidelines 2025, Pharmac Schedule and NZ Medsafe information as available in August 2026.

Dr. Paul Tervit

Medicine class	Generic / NZ trade names	Usual adult COPD regimen	Main role	Key risks / adverse effects	High-yield pitfalls
SABA short-acting β_2 agonist	**Salbutamol – Ventolin**	Usually **100–200 micrograms (1–2 puffs) PRN**; higher/repeated doses may be used during exacerbations according to acute-care protocol	Rapid symptom relief / rescue bronchodilator	Tremor, tachycardia, palpitations, hypokalaemia, headache; high doses may provoke arrhythmia	**Not adequate maintenance treatment** for persistently symptomatic COPD. Increasing reliever use should trigger review for deterioration, poor technique or undertreatment.
SAMA short-acting muscarinic antagonist	**Ipratropium – Atrovent**	**20 micrograms × 2 puffs, four times daily**; NZ datasheet allows individualisation, generally not >12 puffs/day	Short-acting bronchodilation; useful particularly during exacerbations	Dry mouth, cough, urinary retention; blurred vision / precipitated narrow-angle glaucoma if aerosol reaches eyes; occasional tachyarrhythmia	Avoid unnecessary chronic duplication with a **LAMA**. Extra caution with glaucoma, bladder-neck obstruction/BPH. Nebulised drug should not spray into the eyes.
LAMA long-acting muscarinic antagonist	**Umeclidinium – Incruse Ellipta**	**62.5 micrograms, 1 inhalation once daily**	Maintenance bronchodilation; symptoms + exacerbation reduction	Dry mouth, constipation, urinary retention, glaucoma-related effects, occasional tachycardia	**Not a reliever.** Do not routinely combine two LAMAs. DPI requires adequate inspiratory technique. NZ funding requires COPD diagnosis/endorsement conditions.
	Tiotropium – Spiriva Respimat	**2 puffs once daily** = total tiotropium 5 micrograms/day	Maintenance bronchodilation	Antimuscarinic effects as above; monitor more closely in significant renal impairment	Do not combine chronically with another LAMA or regular ipratropium without a specific rationale. Respimat loading/priming technique is a frequent practical problem.
	Glycopyrronium – Seebri Breezhaler	**50 micrograms inhaled once daily**	Maintenance bronchodilation	Dry mouth, urinary retention, glaucoma, constipation	**Capsule is for inhalation—not swallowing.** Avoid duplicate LAMA therapy. Pharmac currently lists Seebri as a funded brand subject to COPD endorsement conditions.

Medicine class	Generic / NZ trade names	Usual adult COPD regimen	Main role	Key risks / adverse effects	High-yield pitfalls
LABA/LAMA dual long-acting bronchodilator	**Umeclidinium/vilanterol – Anoro Ellipta**	**62.5/25 micrograms, 1 inhalation once daily**	Often the key maintenance combination for persistent breathlessness; better bronchodilation than either class alone	LAMA effects + tremor, palpitations, tachycardia, hypokalaemia from LABA component	**Not rescue therapy.** Avoid adding another LABA or LAMA inadvertently. Check device technique and adherence before escalation.
	Glycopyrronium/indacaterol – Ultibro Breezhaler	**110/50 micrograms, contents of 1 capsule inhaled once daily**	Maintenance dual bronchodilation	Anticholinergic effects; tremor, tachycardia/palpitations, possible hypokalaemia	Breezhaler capsule must be pierced and **inhaled through device, not swallowed**. Avoid duplicate LABA/LAMA components.
	Tiotropium/olodaterol – Spiolto Respimat	**2 puffs once daily** (2.5/2.5 micrograms per puff)	Maintenance dual bronchodilation	Dry mouth, urinary retention/glaucoma; palpitations, tremor; caution with cardiovascular disease	Not for acute bronchospasm. Avoid other regular anticholinergics/LABAs unless specifically intended. Respimat technique needs demonstration.
ICS/LABA inhaled corticosteroid + LABA	**Fluticasone furoate/vilanterol – Breo Ellipta 100/25**	**1 inhalation once daily**	Consider when an **ICS indication exists**, e.g. exacerbation-prone COPD with eosinophilic inflammation or coexisting asthma; increasingly triple therapy is preferred where LAMA also indicated	Oral candidiasis, dysphonia, bruising; **increased pneumonia risk**; systemic steroid effects at greater exposure; LABA effects	**ICS is not routine COPD monotherapy.** Rinse mouth after use. Reconsider ICS if repeated pneumonia, no clear benefit, or low exacerbation risk. COPD dose is **100/25**, not the higher asthma strength.
ICS/LAMA/LABA triple therapy	**Fluticasone furoate/umeclidinium/vilanterol – Trelegy Ellipta 100/62.5/25**	**1 inhalation once daily**	Persistent exacerbations and/or symptoms despite appropriate dual therapy where ICS benefit is expected	Pneumonia, oral thrush, dysphonia + anticholinergic and β_2-agonist adverse effects	**100/62.5/25 is the COPD strength.** Not a rescue inhaler. Check blood eosinophils, exacerbation history, pneumonia risk and asthma features before adding/withdrawing ICS. Special Authority applies for funded single-inhaler triple therapy.
	Budesonide/glycopyrronium/formoterol – Breztri Aerosphere	**160/7.2/5 micrograms per actuation: 2 inhalations twice daily**	Alternative single-inhaler triple therapy for appropriate moderate–severe COPD	ICS-associated pneumonia/thrush + antimuscarinic effects + tremor/tachycardia from LABA	pMDI technique differs from Ellipta DPI; spacer may be useful in selected patients. Rinse mouth. Beware duplicate LABA/LAMA/ICS prescriptions after switching. Funded in NZ for eligible COPD patients under Special Authority.

Other pharmacological treatments relevant to COPD

Class / treatment	Typical NZ use	Usual regimen	Risks / pitfalls
Oral corticosteroid – prednisolone	Moderate–severe **acute COPD exacerbation**, not stable maintenance therapy	Common NZ regimen: **prednisone/prednisolone 40 mg once daily for 5 days**	Hyperglycaemia, mood/insomnia, fluid retention, infection risk. Recurrent “rescue” courses add substantial cumulative steroid toxicity; investigate frequent exacerbations rather than repeatedly prescribing steroids.
Antibiotic during exacerbation	When bacterial infection is clinically suspected, particularly increased sputum purulence/volume with worsening dyspnoea	Agent and duration depend on NZ antimicrobial guidance, allergy, previous cultures and disease severity	**Not every exacerbation needs antibiotics.** Avoid treating isolated breathlessness without evidence suggesting bacterial infection; consider bronchiectasis and previous resistant organisms in frequent exacerbators.
Long-term macrolide, usually azithromycin	Selected patients with **recurrent exacerbations despite optimised inhaled therapy**, generally after specialist assessment	Regimens vary; commonly intermittent or daily low-dose azithromycin protocols	QT prolongation/arrhythmia, hearing loss, GI effects, antimicrobial resistance, NTM considerations. Review ECG, interacting drugs and microbiology risk.
Mucolytic therapy	Selected chronic bronchitis phenotype with troublesome sputum/recurrent exacerbations	Product-dependent	Benefit is modest and phenotype-dependent; should not substitute for smoking cessation, airway-clearance assessment or optimisation of inhalers.
Long-term oxygen therapy	**Documented chronic severe resting hypoxaemia** after appropriate assessment; not simply breathlessness	Usually ≥15 h/day when criteria are met; prescription based on ABG/oxygen assessment	Oxygen does **not treat breathlessness in a normally oxygenated patient**. Fire risk is substantial with smoking. Hypercapnia requires appropriate assessment.

Board-review pitfalls

- **Treat the patient, not the FEV_1 alone.** Escalation is driven particularly by breathlessness, functional limitation and exacerbation history.
- **Before escalating:** confirm diagnosis, ask about smoking, examine for alternative causes of dyspnoea, and check adherence + inhaler technique + device suitability.
- **LABA/LAMA is the backbone of maintenance pharmacotherapy** for many symptomatic patients; short-acting agents remain rescue drugs.
- **ICS ≠ universal COPD treatment.** Benefit is greatest when exacerbation risk and corticosteroid-responsive inflammation are present; pneumonia risk pushes the balance the other way.
- When changing combination inhalers, explicitly reconcile their components. A common error is accidental **duplicate LABA, LAMA or ICS therapy**.
- Avoid routine **SAMA + LAMA** use: ipratropium plus a maintenance LAMA increases anticholinergic burden without usually adding meaningful maintenance benefit.
- Device selection matters as much as molecule selection: a technically unsuitable DPI, pMDI or Respimat can turn an effective prescription into ineffective therapy.

NZ funding note: Incruse, Spiriva, Seebri and several LABA/LAMA preparations have COPD-specific endorsement/funding requirements; **Anoro, Ultibro, Spiolto, Trelegy and Breztri** are currently represented in the Pharmac Schedule, with combination/triple products subject to applicable Special Authority criteria.

For **COPD long-term home oxygen therapy (LTOT) in New Zealand**, the current NZ COPD guidance uses fairly strict hypoxaemia criteria. Assessment should be performed through a **specialist respiratory service**, with the patient clinically stable.

NZ LTOT criterion	Threshold / requirement
Timing of assessment	Patient should be **stable**, and assessed **≥6 weeks after hospital discharge or an acute respiratory illness**.
Definite LTOT indication	**PaO_2 <7.3 kPa (55 mmHg)** on arterial blood gas; this usually corresponds to **SpO_2 <88%**.
Conditional indication	**PaO_2 <8.0 kPa (60 mmHg)**, approximately **SpO_2 up to 91%**, **plus** evidence of **polycythaemia (Hct >0.55)** and/or **cor pulmonale/right-heart failure**.
Required duration	LTOT should generally be used for **at least 15 hours/day** to obtain survival benefit. Using it 24 h/day has not shown additional mortality/hospitalisation benefit over 15 h/day in the cited NZ guidance.
Smoking/vaping	**Current smoking, heated-tobacco use, e-cigarette use or vaping are absolute contraindications to oxygen supply** because of fire risk.

A useful board pearl is: **oxygen treats chronic hypoxaemia, not breathlessness**. In a COPD patient who is breathless but not hypoxaemic, home oxygen is not expected to improve dyspnoea or quality of life.

For an **acute COPD exacerbation**, this is a different situation: supplemental oxygen is titrated to a target **SpO_2 88–92%**, rather than using the LTOT criteria above.

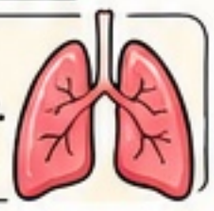
Palliative oxygen has separate NZ criteria: terminal illness with expected survival **<3 months**, **SpO_2 <90%**, and dyspnoea not adequately controlled despite optimal treatment.

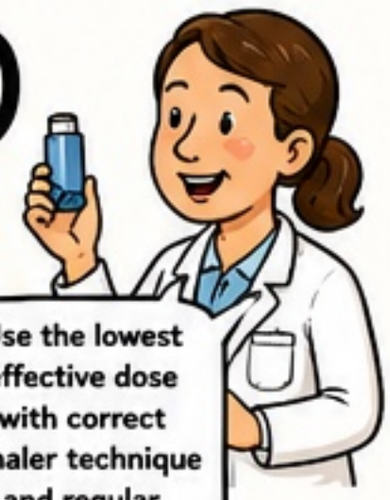
The most compact exam formulation is therefore: **stable ≥6 weeks → ABG → PaO_2 <7.3 kPa, or <8.0 kPa with polycythaemia/cor pulmonale → respiratory-service assessment → ≥15 h/day; no current smoking/vaping.**

COPS TREATMENTS IN NEW ZEALAND (NZ)

★ By Medicine Class – Board Review ★

All classes are used for symptom control and/or reducing exacerbations.
Choice depends on severity, symptoms, history of exacerbations and inhaler suitability.
See bpac.org.nz/b-quick/copd.aspx for full guidance.



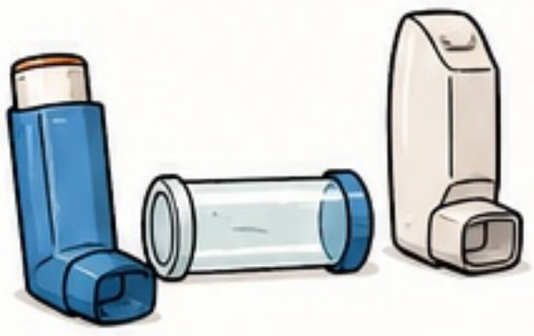


1. SABA – Short-Acting β_2 Agonists

Purpose: Relief of acute breathlessness

Examples (NZ):
- Salbutamol

Delivery:
- MDI + spacer
- DPI



Key points
- ✓ First-line reliever for all patients
- ✓ Onset in minutes, relief for 3–4 hours
- ✓ Also used pre-exercise

2. LABA – Long-Acting β_2 Agonists

Purpose: Maintenance symptom control

Examples (NZ):
- Salmeterol
- Formoterol
- Olodaterol
- Indacaterol

Delivery:
- MDI / DPI (once or twice daily depending on agent)

Key points
- ✓ Bronchodilation for ~12–24 hours
- ✓ NOT for acute relief – always have a reliever
- ✓ Use regularly

3. LAMA – Long-Acting Muscarinic Antagonists

Purpose: Maintenance symptom control and reduce exacerbations

Examples (NZ):
- Tiotropium
- Glycopyrronium
- Aclidinium
- Umeclidinium

Delivery:
- HandiHaler® DPI
- Respimat® SMI
- Ellipta® DPI

Key points
- ✓ Bronchodilation for ~24 hours
- ✓ First choice for many patients
- ✓ Improves symptoms, exercise tolerance and reduces exacerbations

4. LABA + LAMA – Dual Bronchodilators

Purpose: Greater symptom control and reduction in exacerbations

Examples (NZ):
- Indacaterol + Glycopyrronium
- Olodaterol + Tiotropium
- Umeclidinium + Vilanterol

Delivery:
- DPI (e.g. Breezhaler®, Ellipta®)

Key points
- ✓ More effective than single bronchodilator
- ✓ Preferred for symptomatic patients

5. ICS – Inhaled Corticosteroids

Purpose: Reduce exacerbations (especially in those with eosinophilia or asthma overlap)

Examples (NZ):
- Beclometasone
- Budesonide
- Fluticasone propionate

Delivery:
- MDI (with spacer)
- DPI

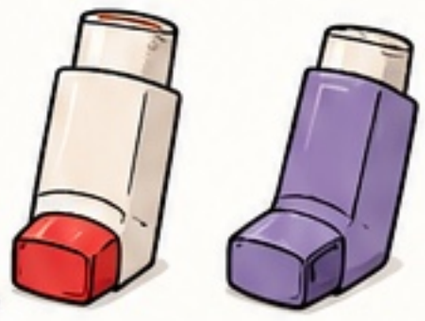
Key points
- ✓ Not for symptom relief alone
- ✓ Use with LABA or LABA+LAMA in appropriate patients
- ✓ Increased risk of pneumonia – use lowest effective dose

6. ICS + LABA – Combination Inhalers

Purpose: Improve symptoms and reduce exacerbations

Examples (NZ):
- Budesonide + Formoterol
- Fluticasone + Salmeterol

Delivery:
- DPI (e.g. Symbicort® Turbuhaler®) or MDI



Key points
- ✓ More effective than ICS alone
- ✓ Not for patients with low exacerbation risk and low eosinophils
- ✓ Rinse mouth

7. ICS + LABA + LAMA – Triple Therapy

Purpose: Reduce exacerbations and improve symptoms in higher risk patients

Examples (NZ):
- Fluticasone + Umeclidinium + Vilanterol (Trelegy® Ellipta®)
- Beclometasone + Formoterol + Glycopyrronium (Trimbow®)

Delivery: DPI (once daily)

Key points
- ✓ Most effective in reducing exacerbations
- ✓ Consider in frequent exacerbators

8. PDE-4 Inhibitors

Purpose: Reduce exacerbations in severe COPD with chronic bronchitis and frequent exacerbations

Examples (NZ):
- Roflumilast (tablet)

Delivery: Oral (once daily)

Key points
- ✓ Modest benefit
- ✓ GI side effects, weight loss and neuropsychiatric effects possible
- ✓ Use in selected patients only

9. Mucolytics

Purpose: Reduce exacerbations in selected patients with chronic bronchitis

Examples (NZ):
- Carbocisteine
- N-acetylcysteine

Delivery: Oral

Key points
- ✓ Benefit in some patients with chronic mucus hypersecretion
- ✓ Consider if exacerbations persist

10. Other/Adjunctive

Long-term Macrolides
- Azithromycin (oral)

Purpose: Reduce exacerbations in selected ex-smokers with frequent exacerbations

Key points: Risk of hearing loss, QT prolongation, NTM infection

Theophylline (oral)

Purpose: Bronchodilation (rarely used)

Key points: Narrow therapeutic window, side effects, drug interactions

General Principles (All COPS Patients)

- Stop smoking – most important intervention
- Vaccinations: influenza annually, COVID-19, pneumococcal (and pertussis/RSV as appropriate)
- Pulmonary rehabilitation
- Correct inhaler technique & adherence
- Regular review of symptoms, exacerbations and inhaler use
- Treat comorbidities (e.g. CVD, anxiety/depression, OSA)
- Action plan for exacerbations

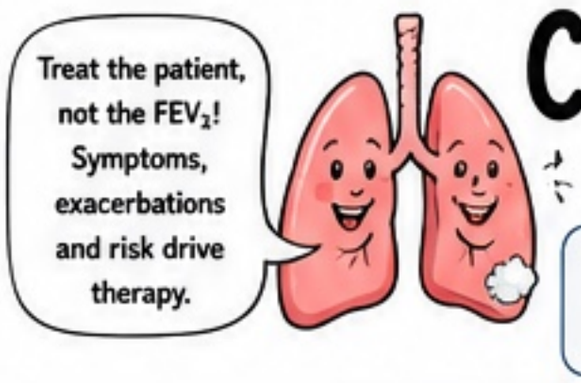
★ Right medicine • Right device • Right dose • Right patient = Better outcomes

Quick Reminder – Stepwise Approach (per bpac COPS algorithm)

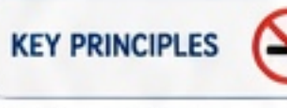
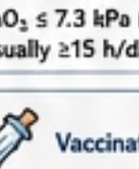
Adapted from bpacnz B-QuiCK: COPS; verify current local guidance/formulary.

COPD TREATMENTS IN NEW ZEALAND

ONE PAGE BOARD REVIEW



All inhaled classes are for maintenance unless stated otherwise.
Use the lowest effective dose. Step up or down according to symptoms and exacerbations.
See NZ COPD Guidelines 2025 and Pharmac Schedule for full details and funding criteria.

CLASS	GENERIC / NZ TRADE NAMES (DEVICE)	USUAL ADULT COPD REGIMEN	MAIN ROLE	RISKS / ADVERSE EFFECTS	PITFALLS / PEARLS
SABA Short-acting β_2 agonist  Reliever (RESCUE)	Salbutamol (Ventolin® HFA) 	100–200 micrograms (1–2 puffs) when needed for symptom relief. During exacerbations may use higher/repeated doses per acute-care protocol.	Rapid relief of breathlessness and wheeze.	• Tremor, nervousness • Palpitations, tachycardia • Hypokalaemia • Headache • Rarely: arrhythmia at high doses	• Not a maintenance drug. Frequent use = poor control. • Increasing reliever use should prompt review. • Ensure correct technique.
SAMA Short-acting muscarinic antagonist  Reliever/Adjunct (mainly in exacerbations)	Ipratropium bromide (Atrovent® HFA) 	20 micrograms × 2 puffs, four times daily (max ~12 puffs/day). Individualise.	Short-acting bronchodilation; useful in exacerbations or when β_2 agonist not suitable.	• Dry mouth • Cough, throat irritation • Urinary retention • Precipitate narrow-angle glaucoma if aerosol reaches eyes • Possible tachycardia	• Do not duplicate with a LAMA for maintenance. • Use cautiously in glaucoma, BPH/urinary retention. • Avoid spraying into eyes.
LAMA Long-acting muscarinic antagonist  Maintenance (once daily)	Umeclidinium (Incruse® Ellipta®) 	62.5 micrograms, 1 inhalation once daily.	Maintenance bronchodilation; improves symptoms and reduces exacerbations.	• Dry mouth, constipation • Urinary retention • Precipitate glaucoma • Rarely: tachycardia	• Not a reliever medicine. • Avoid using with another LAMA or regular ipratropium unless specifically intended. • Ensure adequate inspiratory effort with DPI devices.
	Tiotropium (Spiriva® Respimat®) 	2 puffs once daily = 5 micrograms/day.			
	Glycopyrronium (Seebri® Breezhaler®) 	50 micrograms (1 capsule inhaled) once daily.			
LABA/LAMA Dual long-acting bronchodilator  Maintenance (once daily)	Umeclidinium/ Vilanterol (Anoro® Ellipta®) 	62.5/25 micrograms, 1 inhalation once daily.	Better bronchodilation than either class alone; reduces symptoms and exacerbations.	• Anticholinergic effects (see LAMA) • Tremor, palpitations, tachycardia • Hypokalaemia (rare) • Headache	• Not for acute relief. • Avoid duplicate LABA or LAMA therapy. • Check inhaler technique and adherence first. • Correct device use is essential.
	Glycopyrronium/ Indacaterol (Ultibro® Breezhaler®) 	110/50 micrograms, contents of 1 capsule inhaled once daily.			
	Tiotropium/ Olodaterol (Spiolto® Respimat®) 	2 puffs once daily (2.5/2.5 micrograms per puff).			
ICS/LABA Inhaled corticosteroid + LABA  Maintenance (once daily)	Fluticasone furoate/ Vilanterol (Breo® Ellipta®) 100/25) 	100/25 micrograms, 1 inhalation once daily. (COPD strength)	Consider when ICS indication present (e.g. frequent exacerbations, high eosinophils, coexisting asthma).	• Oral candidiasis • Dysphonia • Bruising, skin thinning • Increased risk of pneumonia • LABA effects	• ICS is not routine treatment for all COPD patients. • Rinse mouth after use. • Review need for ICS regularly, especially if pneumonia occurs. • Ensure correct COPD dose (100/25).
ICS/LAMA/LABA Triple therapy  Maintenance	Fluticasone furoate/ Umeclidinium/ Vilanterol (Trelegy® Ellipta®) 100/62.5/25) 	100/62.5/25 micrograms, 1 inhalation once daily. (COPD strength)	Persistent exacerbations and/or symptoms despite dual therapy where ICS benefit is expected.	• Pneumonia risk • Oral thrush, dysphonia • Anticholinergic effects • Tremor, palpitations, tachycardia • Systemic steroid effects at higher exposure	
	Budesonide/ Glycopyrronium/ Formoterol (Breztri® Aerosphere®) 	160/7.2/5 micrograms per actuation: 2 inhalations TWICE DAILY.			

BEFORE STEPPING UP, CHECK AND OPTIMISE:

- ☑ Confirm COPD diagnosis
- ☑ Smoking status and cessation
- ☑ Adherence
- ☑ Inhaler technique
- ☑ Device suitability
- ☑ Comorbidities and alternative causes of dyspnoea
- ☑ Vaccinations (influenza, COVID-19, pneumococcal, pertussis as appropriate)
- ☑ Pulmonary rehabilitation
- ☑ Self-management/ action plan

OTHER IMPORTAET THERAPIES (not inhaled maintenance drugs)		KEY RISKS / PITFALLS
Oral corticosteroid (prednisolone)	For moderate–severe acute exacerbation: Prednisolone 40 mg once daily for 5 days.	• Hyperglycaemia, mood change, fluid retention, infection risk. • Repeated "rescue" courses = cumulative harm. Address underlying cause.
Antibiotic (during exacerbation)	When bacterial infection suspected (increased sputum purulence/volume + dyspnoea). Agent and duration per NZ antimicrobial guidance.	• Not every exacerbation requires antibiotics. • Consider bronchiectasis and prior resistant organisms in frequent exacerbators.
Long-term macrolide (e.g. azithromycin)	Selected patients with recurrent exacerbations despite optimised therapy (specialist advice).	• QT prolongation/arrhythmia, hearing loss, GI upset • Antimicrobial resistance, NTM risk.
Mucolytic therapy	Selected chronic bronchitis phenotype with troublesome sputum/recurrent exacerbations.	• Benefit modest and phenotype-dependent. • Do not replace smoking cessation or optimised inhalers.
Long-term oxygen therapy (LTOT)	Chronic severe resting hypoxaemia: $PaO_2 \leq 7.3$ kPa (≤55 mmHg) or $SaO_2 \leq 88\%$. Usually ≥15 h/day.	• Does NOT treat breathlessness in normal oxygenation. • Fire risk with smoking. Assess for CO_2 retention.

KEY PRINCIPLES — Stop smoking · Vaccinations · Pulmonary rehabilitation · Physical activity & healthy weight · Manage comorbidities · Written COPD action plan

For full details, see: NZ COPD Guidelines 2025 and Pharmac Schedule (www.pharmac.govt.nz)

This is a quick reference only. Refer to full Data Sheets, NZ COPD Guidelines 2025 and Pharmac Schedule for comprehensive information and Special Authority criteria.

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