Cardiac + Respiratory
FOUNDATION NZ

NEW ZEALAND COPD GUIDELINES

2025 UPDATE

Quick Reference Guide

This concise summary resource is designed for health practitioners working in everyday practice in primary and secondary care settings. To view the full New Zealand COPD Guidelines: 2025 Update, visit the Cardiac and Respiratory Foundation NZ website.

cardiacandrespiratory.org.nz

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Quick Reference Guide

The content of this quick reference guide is sourced from the New Zealand COPD Guidelines: 2025 Update which can be found at ***www.cardiacandrespiratory.org.nz/resource-hub/nz-copd-guidelines-2025-update/***

Contents (INTERACTIVE)

Symptoms, causes and diagnosis	1
Assessing severity	2
Non-pharmacological management	3
Pharmacological management	4
Oxygen therapy	5
COPD exacerbations	6
Pre-hospital management of acute exacerbations	7
Hospital management of acute exacerbations	8
4-step COPD consultation	9
Resources and tools	10

COPD symptoms

COPD should be considered in anyone over the age of 40 with any of these symptoms:

- Chronic cough
- Chronic sputum production
- Recurrent or chronic wheeze
- Shortness of breath

Causes of COPD

- Tobacco smoking is the main cause of COPD
- Chronic exposure to inhaled noxious gases, dust or fumes
- Chronic asthma
- Indoor and outdoor air pollution
- Evidence suggests that vaping may cause COPD, even in non-smokers
- Inhaled recreational substances
- Environmental tobacco smoke
- Alpha-1 antitrypsin deficiency is a rare, genetic defect – consider in young patients (particularly under 40 years)

COPD diagnosis using spirometry

The diagnosis should be confirmed by spirometry and spirometry is part of the assessment of COPD severity. It should be performed *post-bronchodilator* – patients do not need to withhold their usual bronchodilators.

Diagnosis

- Airflow obstruction that is not fully reversible is indicated by a post-bronchodilator FEV_1/FVC ratio < 0.70, (or below the age-specific lower limit of normal (LLN).
- A very large response to bronchodilator (>400 mL) may indicate that a component of asthma is likely.

Assess severity of obstruction

The severity of the obstruction is assessed using the post-bronchodilator FEV_1 as a % of the predicted value* or the z-score value.**

MILD	MODERATE	SEVERE
FEV_1 60-80% predicted or z-score -1.65 to -2.5	FEV_1 40-59% predicted or z-score -2.51 to -4	FEV_1 < 40% predicted or z-score < -4

** Predicted values are determined on the basis of age, height, sex, and ethnicity.*

*** For more information about the criteria for airflow obstruction, see pg 4 in the New Zealand COPD Guidelines: 2025 update available at www.cardiacandrespiratory.org.nz/resource-hub*

Assess severity of symptoms and exacerbations

Spirometry should be used in conjunction with the severity of symptoms and history of exacerbations.

MILD	MODERATE	SEVERE
Breathless on moderate exertion	Breathless walking on level ground	Breathless on minimal exertion
Little or no effect on daily activities	Increasing limitation of daily activities	Daily activities severely curtailed
Few symptoms	Exacerbations requiring oral corticosteroids and/or antibiotics	Exacerbations of increasing frequency and severity
Cough and sputum production	Recurrent chest infections	

Assess impact of breathlessness on daily activities

The impact of breathlessness during daily activities can be quantified using the modified Medical Research Council (mMRC) Dyspnoea Scale.

Modified Medical Research Council (mMRC) Dyspnoea Scale

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

The COPD Assessment Test (CAT) can measure the impact of COPD and response to treatment, visit: *www.catestonline.org*

Non-pharmacological management of COPD

Smoking cessation

Smoking cessation is the most important component of COPD management, and every patient who is still smoking should be offered support to quit. Referral to a smoking cessation support service is recommended. As there is evidence that vaping/e-cigarette use is linked to severe lung injury and lung abnormalities, smokers using e-cigarettes to quit smoking should be advised to stop using them as soon as possible after quitting smoking.

Pulmonary rehabilitation

Offer pulmonary rehabilitation to all patients. If in-person pulmonary rehabilitation cannot be accessed, a home-based pulmonary rehabilitation programme should be considered. Patients may also benefit from local support groups. A list of groups can be found here: *www.cardiacandrespiratory.org.nz/your-health/getting-help/pulmonary-rehabilitation-classes/*

Physical activity

Encourage 20-30 minutes per day of “huff and puff” exercise, or exercise which causes the patient to feel breathless. Exercise should include aerobic (five days per week), strengthening (two days per week), and flexibility (daily).

Breathlessness management

In addition to pulmonary rehabilitation, patients may benefit from seeing a respiratory physiotherapist for breathing exercises or breathlessness management strategies, including hand-held fans, diaphragmatic and pursed lip breathing exercises, and energy conservation techniques.

Sputum management/sputum clearance techniques

Patients with chronic sputum production may benefit from seeing a respiratory physiotherapist for airway clearance strategies.

Nutrition

Both undernutrition and obesity are common in COPD – consider using the Malnutrition Universal Screening Tool: *www.bapen.org.uk/pdfs/must/must_full.pdf* and referral to a dietician.

Undernutrition can usually be managed through dietary advice. In obese or overweight patients, the goal is to achieve weight reduction while preserving muscle mass.

Housing

A smoke-free, warm, dry home environment is likely to improve COPD control.

Pharmacological management of COPD

Inhaled medication for COPD

The purpose of pharmacological management is symptom control and prevention of exacerbations.

Inhaler technique, device suitability, and adherence should be reviewed regularly and before any medication changes.

- **SABAs and SAMAs** are used for short-term relief of breathlessness.
- **LAMAs** are the first-line long-acting bronchodilator, both for breathlessness and reduction of exacerbation risk.
- Escalate promptly to a **LAMA/LABA** *if LAMA alone does not control breathlessness/exacerbations.*
- **ICS** are to prevent exacerbations in patients with frequent exacerbations.
- **Higher blood eosinophils (≥300 cells/µL)** are associated with a greater response to ICS and may identify patients who should receive **ICS/LAMA/LABA.** A single combined inhaler should be considered for improved adherence.
- Escalate to **triple therapy** (ICS/LAMA/LABA) in patients who still continue to exacerbate (more than once a year) or have an exacerbation requiring hospital care.
- Patients with **Asthma/COPD overlap** should receive **ICS**.

Practice points:

- *Choice of specific inhaler* should be guided by patient preferences and their ability to use the inhaler device.
- Provide all patients with a written/electronic personalised COPD action plan (see resources p.10).

Simplified maintenance inhaler management of COPD

When treating	Start with	Escalate to
COPD ***without*** exacerbations	LAMA	LAMA/LABA
COPD ***with*** exacerbations	LAMA	LAMA/LABA (consider ICS/LAMA/LABA if eosinophilia or frequent exacerbations)
Asthma/COPD ***overlap***	ICS/LABA	ICS/LAMA/LAMA

DO NOT

- Do not prescribe a regular SABA.
- Do not routinely prescribe a SAMA to patients on a LAMA.
- Do not prescribe long-term oral corticosteroids as maintenance therapy.
- Do not routinely prescribe theophylline.
- Do not use short-term response to bronchodilator to predict benefit from long-term bronchodilator therapy.
- Do not routinely prescribe nebulised bronchodilators for stable COPD.

ICS withdrawal

Withdraw ICS if there is no evidence of benefit, the patient develops pneumonia or other adverse effects, or if the patient is stable.
Do not withdraw ICS in patients with asthma/COPD overlap or raised blood eosinophils. Review patient 4-6 weeks after ICS withdrawal.

Oxygen therapy for COPD

Note: There is a fire risk associated with oxygen use and smoking or other flammable sources such as gas appliances, open flames, and vaping devices. Current smoking, use of heated tobacco, e-cigarettes, or vaping devices are absolute contra-indications to oxygen supply.

Evaluation of the patient and assessment for long-term oxygen therapy supply should be done by a specialist respiratory service. Oxygen does not reduce the sensation of breathlessness or improve quality of life in patients who are not hypoxic. Oxygen may not improve breathlessness even in those who are hypoxic.

Key points on oxygen therapy

- Oxygen is a drug therapy and must be prescribed.
- Oxygen is a treatment for hypoxia, not dyspnoea.
- Long-term oxygen therapy has survival benefits for patients with severe hypoxaemia but needs to be used for at least 15 hours a day.
- Using oxygen for 15 hours a day is adequate: oxygen therapy for 24 hours per day does not lower the risk of hospitalisation or death compared with 15 hours per day.

Criteria for supply of long-term oxygen therapy

- Assess when the patient is stable, at least six weeks after hospital discharge or an acute respiratory illness.
- PaO_2 (measured by arterial blood gas) less than 7.3 kPa (55 mmHg) indicates the need for long-term oxygen (saturation usually < 88%).
- PaO_2 <8.0 kPa (60 mmHg) (oxygen saturation up to 91%) may also be an indication for long-term oxygen if there is evidence of polycythaemia (haematocrit > 0.55) and/or cor pulmonale/ right heart failure.

Criteria for oxygen in palliative care

- Terminal illness with a life expectancy less than 3 months.
- Oxygen saturation SpO_2 <90%.
- Dyspnoea not adequately controlled by optimal treatment.

COPD exacerbations

COPD exacerbations are characterised by a deterioration in symptoms that is beyond normal day-to-day variations, and is acute in onset.

Key symptoms

- Increased shortness of breath.
- Increased sputum purulence and volume.
- Increased cough and wheeze.

Notes

- Exacerbations are associated with accelerated loss of lung function.
- Prolonged or repeated exacerbations are associated with worse health status, more frequent future exacerbations, and risk of death.
- Early diagnosis and management of exacerbations may prevent functional deterioration and reduce hospital admissions.

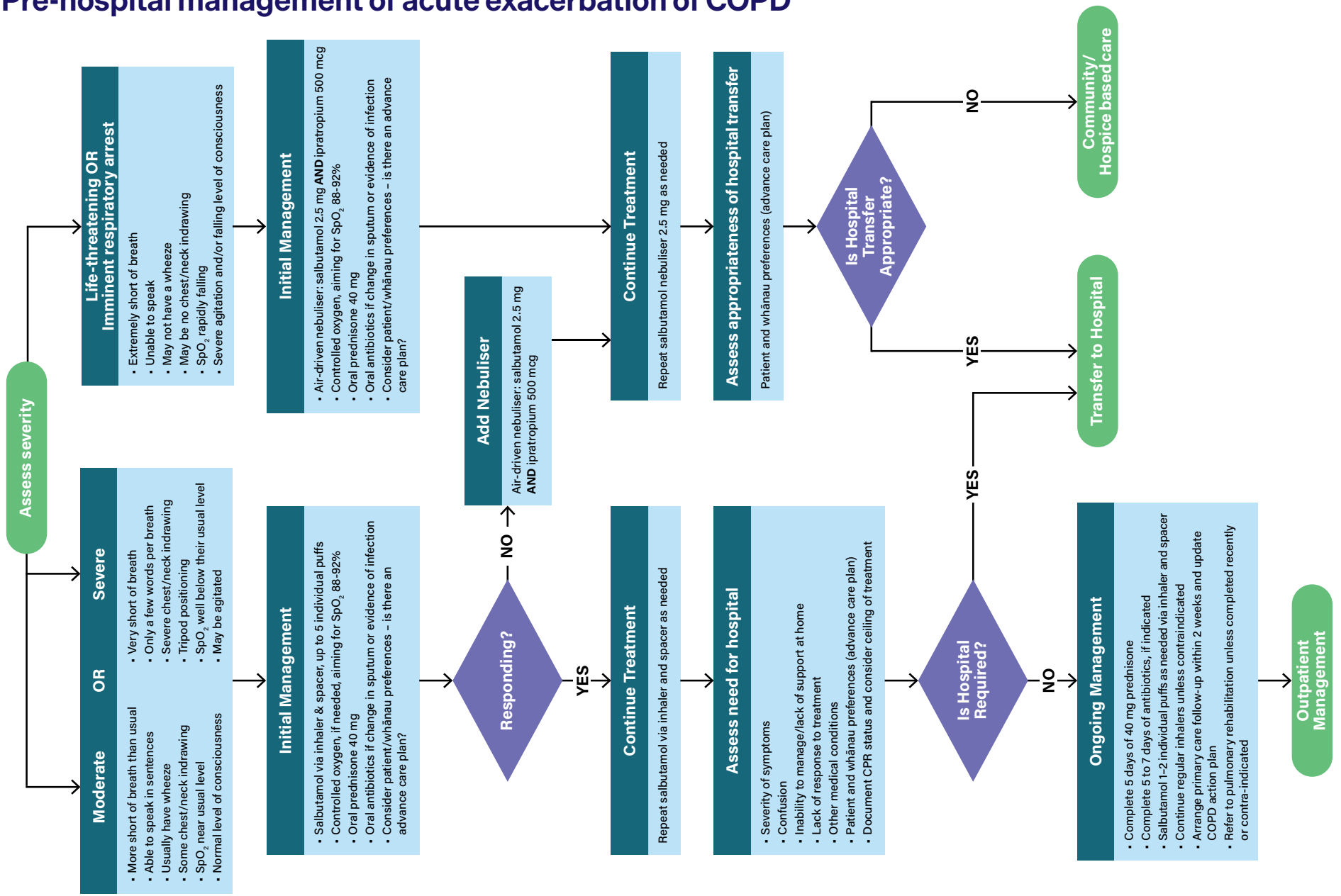
Key messages for exacerbation management

- Most exacerbations can be managed at home.
- Nebulisers are only to be used in severe or life-threatening exacerbations.
- SABAs with or without a SAMA are the initial bronchodilators of choice.
- Give short-course oral corticosteroids (e.g. prednisone 40 mg once daily for 5 days).
- Give short-course antibiotics for purulent sputum and/or other evidence of infection.
- Titrate oxygen to target saturations of 88 to 92%
- Non-invasive ventilation (NIV) reduces mortality in patients with hypercapnic respiratory failure.
- Careful discharge planning and referral to pulmonary rehabilitation may reduce the risk of future exacerbations and admissions.
- Review medication and inhaler technique after an exacerbation.

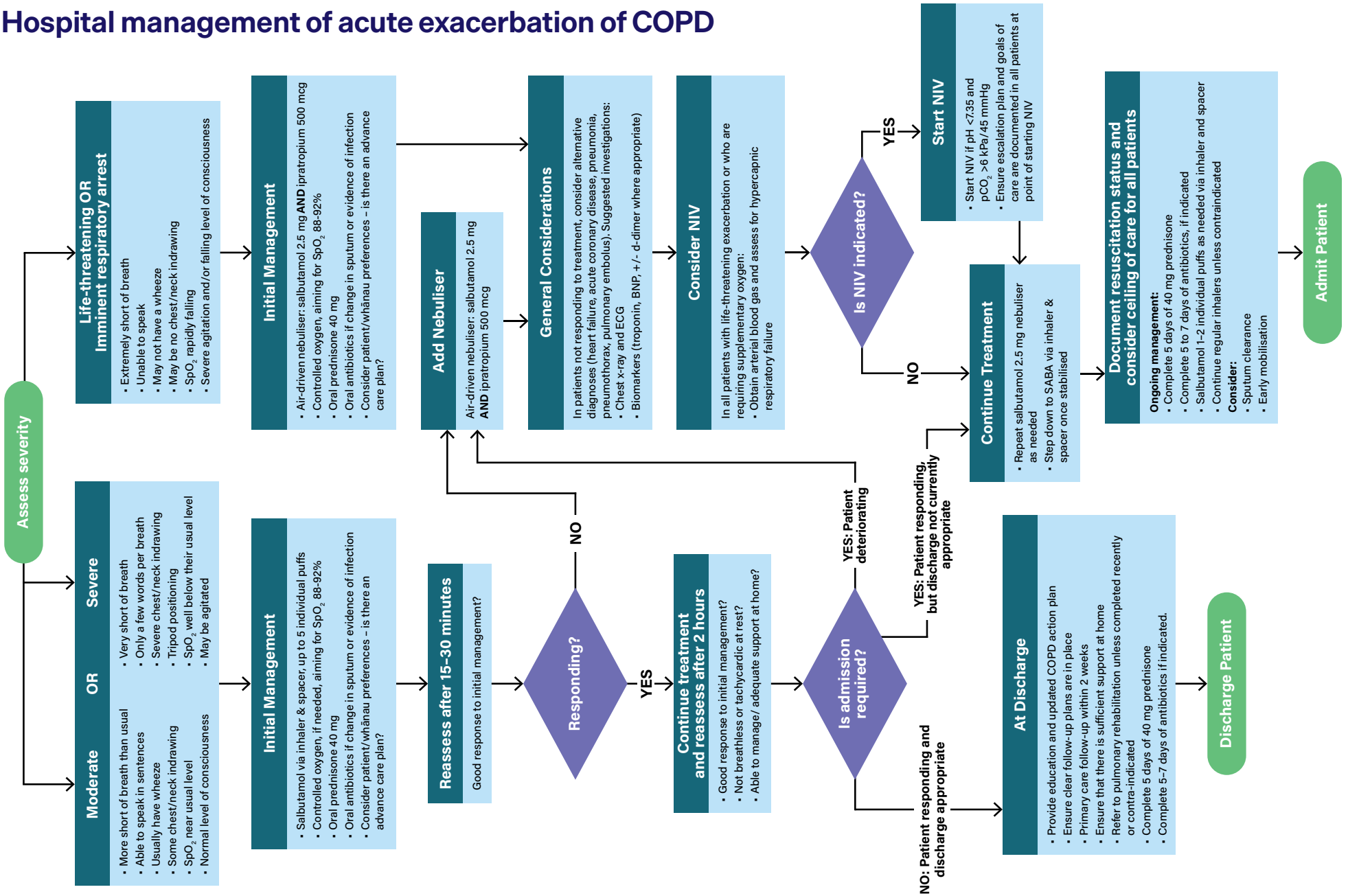
Assessment of COPD exacerbation severity (Note: not all patients will have all of these features)

Mild to moderate	Severe	Life-threatening /imminent respiratory arrest
More short of breath than usual	Very short of breath	Extremely short of breath
Able to speak in sentences	Only a few words per breath	Unable to speak
Usually have wheeze	May not have wheeze	May not have wheeze
Some chest/neck indrawing	Severe neck/chest indrawing	May be no chest/neck indrawing
	Tripod positioning	
SpO_2 near usual level	SpO_2 well below their usual level	SpO_2 rapidly falling
Normal level of consciousness	May be agitated	Severe agitation and/or falling level of consciousness

Pre-hospital management of acute exacerbation of COPD



Hospital management of acute exacerbation of COPD



4-step COPD consultation*

1 Assess COPD control and exacerbation risk

- **Review history of COPD exacerbations** in last 12 months (requiring oral corticosteroids or antibiotics)
- **Complete CAT score****
- **Complete mMRC Dyspnoea Scale with patient***** (Breathlessness score)
- **Review last spirometry**
- **Assess current status:**
  a) Breathlessness
  b) Exercise tolerance
  c) Sputum volume
  d) Sputum colour
  e) Oxygen saturations
  f) Vaccine
  g) Weight

2 Consider other relevant clinical issues

- **Assess the patient's knowledge** of their personal signs and symptoms of an exacerbation
- **Ask about adherence** with maintenance treatment
- **Review smoking status** and cessation strategies
- **Assess whether the patient is coping** with activities of daily living
- **Consider a nutritional assessment**
- **Consider further specialist review** if symptoms and presentation don't correlate
- **Review for any co-morbid** conditions
- **Consider discussing or reviewing** an advance care plan

3 Decide whether treatment plan needs to change

- **Consider if additional drug treatment is required** if COPD is not adequately controlled, such as increasing breathlessness or recent exacerbation
- **Consider withdrawal of ICS** if patient is stable and there is no evidence of benefit or recent pneumonia. If ICS is withdrawn, review patient in 4-6 weeks
- **Consider if a home supply of antibiotics and oral corticosteroid** is required
- **Discuss an exercise plan and/or refer to pulmonary rehabilitation and/or physiotherapy**
- **Recommend annual flu, pneumococcal and RSV vaccines**
- **Refer for assessment for domiciliary oxygen** if resting oxygen saturations <88% on room air when well and smoke free
- **Refer for support services/specialist review** if appropriate

4 Complete a COPD Action Plan

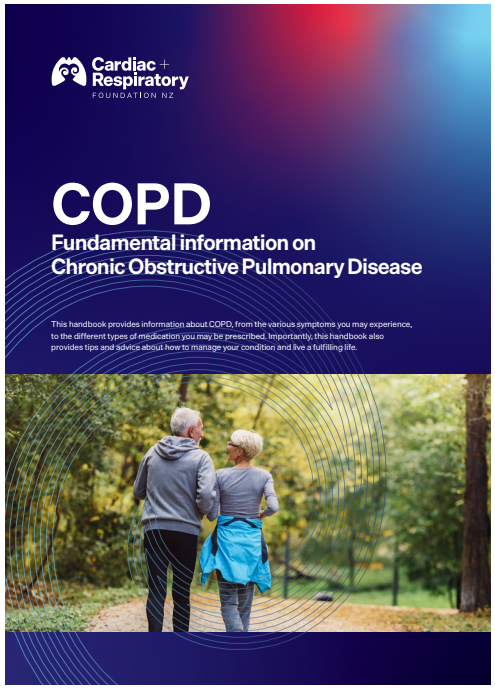
- **Complete the front page** of the patient's plan
- **Review the signs and symptoms** of worsening COPD and of a chest infection (e.g. unwell, very unwell and extremely unwell)
- **Remind the patient what to do when unwell:**
  a) breathing control techniques
  b) correct inhaler technique
  c) chest clearance (if required)
  d) energy conservation techniques
- **Enter the antibiotic name** and length of course (usually 5 days)
- **Enter the prednisone regimen** (usually 40 mg daily for 5 days)
- **Set a time for clinical review** after starting home supply of prednisone and antibiotics (if applicable)

** Please note: the 4-step consultation will likely take more than one visit.*
*** The COPD Assessment test (CAT) can be accessed at www.catestonline.org.*
****The mMRC Dyspnoea Scale can be found on p.2*

Further COPD resources and tools

Resources available to order or download at
www.cardiacandrespiratory.org.nz/resource-hub/

- New Zealand COPD Guidelines: 2025 Update
- COPD Quick Reference Guide
- COPD Action Plans (print + digital)
- COPD patient education booklet
- Breathlessness guides



Abbreviations used throughout this guide

BNP	Brain natriuretic peptide
CAT	COPD Assessment Test
COPD	Chronic obstructive pulmonary disease
CPR	Cardiopulmonary resuscitation
ECG	Electrocardiogram
FEV_1	Forced expiratory volume in one second
FVC	Forced vital capacity
ICS	Inhaled corticosteroid
IV	Intravenous
LABA	Long-acting beta agonist
LAMA	Long-acting muscarinic antagonist
mMRC	Modified Medical Research Council
NIV	Non-invasive ventilation
O_2	Oxygen
PaO_2	Partial pressure of oxygen
RSV	Respiratory syncytial virus
SABA	Short-acting beta agonist
SAMA	Short-acting muscarinic antagonist
SPO_2	Oxygen saturation by pulse oximetry