Te Awakairangi Health NETWORK

March 2019

COPD Update: Revised GOLD Guidelines

Chronic Obstructive Pulmonary Disease (COPD) is currently the fourth leading cause of death in the world, but is projected to be the 3rd leading cause of death by 2020.[1] In New Zealand, the most recent figures estimate approximately 35,300 people are living with severe COPD and requiring stays in hospital.[2]

Hospitalisation rates are highest for Māori, at 3.7 times the non-Māori, non-Pacific, non-Asian rate for hospitalisation, and 2.2 times the rate for mortality. COPD hospitalisation rates are 5.7 times higher in the most deprived areas than in the least deprived, and mortality rates are 2.4 times higher. Spirometry remains key in the diagnosis of COPD, with assessment and treatment based on the patient's level of symptoms, future risk of exacerbations, the extent of airflow limitation, and identification of comorbidities.

Management strategies are not limited to pharmacological treatments, and should be complemented by appropriate non-pharmacological interventions. Pharmacological therapy for COPD is used to reduce symptoms, reduce the frequency and severity of exacerbations, and improve exercise tolerance and health status.

KEY MESSAGES

- Stable COPD management strategy should be based on the individualised assessment of symptoms and future risk of exacerbations
- All individuals who smoke should be strongly encouraged and supported to quit
- The main treatment goals are reduction of symptoms and future risk of exacerbations
- Most pharmacological treatments are inhaled, so proper inhaler technique is highly relevant, as is adherence to therapy
- Encourage all COPD patients to have flu vaccination

GOLD Guidelines

The "ABCD" assessment tool from a 2011 GOLD update highlighted the importance of exacerbation prevention, and incorporated multimodality assessment and symptom burden.
A 2017 refinement of the ABCD tool separated spirometric grades from analysis of symptoms/exacerbation history, or the ABCD groups.[3]
In this 2019 revision, initial treatment (based on ABCD) is separated from follow-up treatment (based on the patient's major treatable trait(s) and currently used drug(s)). The blood eosinophil count has now been introduced as a biomarker for estimating the efficacy of inhaled corticosteroids for the prevention of exacerbations.
This revised assessment tool acknowledges the limitations of FEV_1 in influencing some therapeutic decisions for individualised patient care. It also highlights the importance of patient symptoms and exacerbation risks.[3]

Initial Pharmacological Treatment[3]

≥ 2 moderate exacerbations or ≥ 1 leading to hospitalisation	**Group C** LAMA	**Group D** LAMA or LAMA + LABA* or ICS + LABA** *Consider if highly symptomatic (e.g CAT >20) ** Consider if eosinophil count ≥300 cells/µL
0 or 1 moderate exacerbations (not leading to hospital admission)	**Group A** A bronchodilator	**Group B** A long-acting bronchodilator (LABA or LAMA)
	mMRC 0-1 CAT < 10	mMRC ≥ 2 CAT ≥ 10

- **GROUP A** – all patients should be offered bronchodilator treatment based on its effect on breathlessness. It can be short- or long-acting[1]
- **GROUP B** – initial therapy should be a long-acting bronchodilator. There is no evidence to recommend one class of long-acting bronchodilator over another for initial relief of symptoms. For patients with severe breathlessness, initial therapy with two bronchodilators may be considered[1]
- **GROUP C** – initial therapy should consist of a single long-acting bronchodilator. In head to head comparisons, LAMA inhalers were superior to LABA inhalers regarding exacerbation prevention[1]
- **GROUP D** – in general, start therapy with a LAMA as it has effects on both breathlessness and exacerbations. For patients with more severe symptoms, LABA/LAMA may be used but for patients with a greater likelihood of exacerbations (eos ≥300 cells/µL), LABA/ICS may be the first choice. LABA/ICS may also be first choice in COPD patients with a history of asthma[1]

Follow-up Pharmacological Treament[3]

This algorithm can be applied to any patient already on maintenance therapy, irrespective of the GOLD group allocated at treatment initiation.

- If the response to initial treatment is appropriate, maintain it.
- If not
  - Consider the predominant treatable trait to target (dyspnoea or exacerbations). Use exacerbation pathway if both exacerbations and dyspnoea need to be targeted
  - ***Place patient in box responding to current treatment and follow indicators***
  - Assess response, adjust and review
  - These recommendations do not depend on the ABCD assessment at diagnosis.[3]

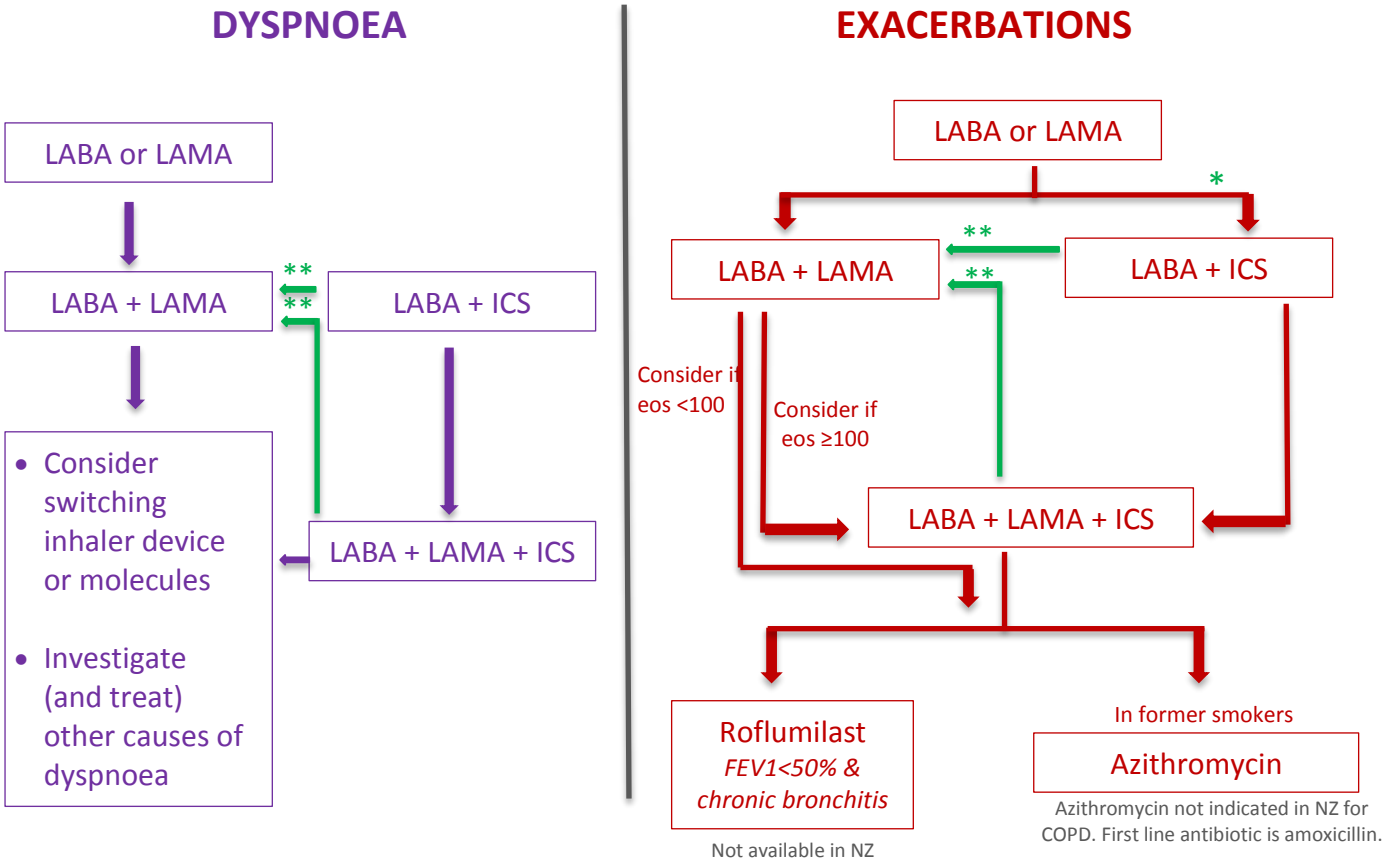

Fig 1: Algorithm for follow-up pharmacological treatment. Reproduced from https://goldcopd.org/wp-content/uploads/2018/11/GOLD-2019-POCKET-GUIDE-FINAL_WMS.pdf

eos = blood eosinophil count (cells/µL)
**consider if eos ≥ 300 or eos ≥ 100 AND ≥2 moderate exacerbations/1 hospitalisation*
*** consider de-escalation of ICS or switch if pneumonia, inappropriate original indication or lack of response to ICS*

- The response to treatment escalation should always be reviewed
- De-escalation should be considered if there is a lack of clinical benefit and/or side effects occur
- De-escalation may be considered in COPD patients receiving benefit who return with resolution of some symptoms that subsequently may require less therapy

Key points for the use of bronchodilators[1]

- LABAs and LAMAs are preferred over short-acting agents except for patients with only occasional dyspnoea, and for immediate relief of symptoms in patients already on long-acting bronchodilators for maintenance therapy
- Patients may be started on single long-acting bronchodilator therapy or dual long-acting bronchodilator therapy. In patients with persistent dyspnoea on one bronchodilator, treatment should be escalated to two.
- Inhaled bronchodilators are recommended over oral bronchodilators
- Theophylline is not recommended unless other long term treatment bronchodilators are unavailable or unaffordable

Key points for the use of other agents[1]

- Long-term monotherapy with ICS is not recommended
- Long-term treatment with ICS may be considered in association with LABAs for patients with a history of exacerbations despite appropriate treatment with long-acting bronchodilators. This combination has the greatest likelihood of reducing exacerbations in patients with blood eosinophil counts ≥ 300 cells/µL.
- Long-term therapy with oral corticosteroids is not recommended
- Statin therapy is not recommended for prevention of exacerbations
- Antioxidant mucolytics are recommended only in selected patients

References:

1. Global Initiative for Chronic Obstructive Lung Disease. Pocket Guide to COPD Diagnosis, management and Prevention. 2019. https://goldcopd.org/wp-content/uploads/2018/11/GOLD-2019-POCKET-GUIDE-FINAL_WMS.pdf Retrieved 7 February 2019.
2. https://www.asthmafoundation.org.nz/research/key-statistics
3. Global Initiative for Chronic Obstructive Lung Disease. 2019 Report. https://goldcopd.org/wp-content/uploads/2018/11/GOLD-2019-v1.7-FINAL-14Nov2018-WMS.pdf Retrieved 7 February 2019.