# COPD-X Summary of Changes V2.61, February 2020

The latest update of The COPD-X Plan: Australian and New Zealand Guidelines for the Management of COPD has been provided by Lung Foundation Australia in conjunction with the Thoracic Society of Australia and New Zealand following the February 2020 meeting of the COPD-X Guidelines Committee.

## Implications for Clinical Practice

All changes made to the document are outlined below and those highlighted in yellow are differentiated as the most significant and likely to have an impact on clinical practice.

## *C. Confirm diagnosis and assess severity*

### C2.5 COPD case finding

In a retrospective analysis of health data in Canada (Johnson 2019), over 99% of people with COPD had incurred at least one visit in any of the previous 5 years prior to recording of the diagnosis. This study highlights the potential for earlier diagnosis, and intervention.

### C5.10 Haematology and biochemistry

The Thoracic Society of Australia and New Zealand Alpha1 Antitrypsin Deficiency Position Statement indicates that testing for alpha1 antitrypsin deficiency (AATD) should be considered in all patients with chronic airflow obstruction (Dummer 2020).

## *O. Optimise Function*

### O4.2 Inhaled corticosteroids and long-acting beta2-agonists and long-acting antimuscarinics in combination (ICS/LABA/LAMA)

A systematic review and Bayesian Network meta-analysis of 219 trials involving 228,710 patients with stable COPD, comparing exacerbation, mortality, and adverse events among all regular inhaled drug classes, including ICS/LAMA/LABA, LAMA/LABA, ICS/LABA, LAMA, LABA, ICS, and placebo found that all drug classes showed significant benefits in reducing total exacerbations, compared to placebo (Lee 2019). Triple therapy was the most effective treatment in reducing total exacerbations and all-cause mortality compared to placebo. However, ICS combinations had a high probability of pneumonia in comparison to placebo.

Following the update to the PBS website on 1 March 2020, wording on initiation of triple therapy changed:

- **PREVIOUS WORDING**
  In Australia, for initiation of triple therapy (ICS/LABA/LAMA) subsidised through the PBS, the patient must have a post-bronchodilator $FEV_1$ <50% of predicted normal prior to therapy, AND must have a history of repeated exacerbations (2 or more) with significant symptoms despite regular bronchodilator therapy with a LAMA/LABA or an ICS/LABA OR the patient must have been stabilised on a combination of a LAMA, LABA and an ICS for COPD.

- **NEW WORDING**
  In Australia, for initiation of triple therapy (ICS/LABA/LAMA) subsidised through the PBS, the patient must have experienced at least one severe COPD exacerbation, which required hospitalisation, or two or more moderate exacerbations in the previous 12 months, with significant symptoms despite regular bronchodilator therapy with a long acting muscarinic antagonist (LAMA) and a long acting beta-2 agonist (LABA) or an inhaled corticosteroid (ICS) and a LABA; OR the patient must have been stabilised on a combination of a LAMA, LABA and an ICS for COPD.

**O6.11 Complementary therapies**

Tai Chi is a systematic callisthenic exercise that involves a series of slow and rhythmic circular motions moving from one form to another. The styles of Tai Chi are differentiated by the varying forms or postures, order of movement sequences, focus on muscle work, pace of movement and angle of knee flexion during practice. Tai Chi is most commonly performed in a semi-squat position and is recognised as an exercise of moderate intensity.

A Cochrane Review (Ngai 2016) in people with mild to very severe stable COPD included eight RCTs that compared Tai Chi to usual care. One trial was undertaken in Australia (Leung 2013). The findings provided very low to moderate quality evidence that when compared to usual care, Tai Chi improved functional exercise capacity (6MWD) (6 trials, n=318,) mean difference 29.64m (95% CI 10.52 to 48.77m) and lung function ($FEV_1$) (4 trials, n=258), mean difference 0.11L (0.02 to 0.20L) [evidence level I]. There were no significant differences between Tai Chi and usual care in dyspnoea or quality of life. No adverse events were reported. Tai Chi has also been shown to result in a significant improvement in body sway and functional balance in patients with COPD (see O7.5 Falls in COPD). Tai Chi did not show superiority when carried out in addition to breathing exercises (3 trials) or pulmonary rehabilitation (1 trial) when compared with these interventions alone.

Tai Chi can be carried out in a wide range of settings and does not require equipment or a large space. For these reasons, Tai Chi may be a potential treatment option when a pulmonary rehabilitation program is not available or if a patient declines referral.

**O7.2.4 Statins**

Update and shortening of section to read: Despite historic cohort studies suggesting a potential benefit of statins in COPD, a meta-analysis of eight randomised controlled trials including 1,323 predominantly male patients with COPD showed no change to mortality, exacerbation rates, lung function or quality of life with statin therapy compared to placebo [evidence level I] (Walsh 2019). Several of the larger trials included in this meta-analysis excluded patients with a conventional indication for statin therapy. Based on this data there is no evidence to prescribe statins in patients with COPD outside of conventional indications.

**O7.3 Osteoporosis**

Following addition of Chen 2019 reference (Chen 2019) in the prvious version of COPD-X, addition of wording stating that people with COPD are at special risk of osteoporotic fracture. High dose corticosteroids, coexisting risk factors such as hypogonadism (induced by corticosteroid therapy itself in high doses in men and women), physical inactivity, repeated periods of immobilisation from hospital admissions, and dairy food avoidance health beliefs are all potential contributory risk factors. The Presence of such factors is an indication for bone densitometry. Assessment of vitamin D status, and other risk factors such as coexisting illnesses that may influence the skeleton (e.g. primary hyperparathyroidism) may also be required.

Addition of a sentence stating that vertebral compression fractures, visualised on a lateral chest x-ray could be looked for opportunistically even if primarily investigating for causes of pulmonary deteriorations, hence leading to bone densitometry and treatment.

## *P: Prevent deterioration*

**P1.2 Treatment of nicotine dependence**

Under-utilisation of evidence-based smoking cessation pharmacotherapies during admission and at the time of discharge was observed in a Tasmanian study of smokers admitted for an acute exacerbation of COPD (Pham 2019). Limited access to formal smoking cessation training for doctors and poor uptake of nurse-led smoking cessation services were also reported.

**P4. Macrolides**

Section reviewed and updated:

For patients with moderate-severe COPD and recurrent exacerbations, trials have found that long-term low-dose oral macrolides reduce the number of patients experiencing an exacerbation and the frequency of exacerbations. The number needed to treat to prevent one exacerbation (NNT) was 8 (95% CI 5 to 18) (Herath 2018).

A systematic review of prophylactic macrolide treatment in severe COPD, which included 6 RCTs involving 1,485 COPD patients, showed that regular treatment of at least 6 months in duration results in a significant decrease in COPD exacerbations (RR 0.65 95% CI 0.43 to 0.89, p=0.01). Participants treated with macrolides were more likely to experience non fatal adverse (gastrointestinal reactions, ototoxicity, rash, and liver injury) events compared to the placebo treated group (Yao 2013) [evidence level I]. However, prudence would suggest this treatment should be reserved for patients who have severe disease with recurrent exacerbations, in whom other treatments (for example: smoking cessation, pulmonary rehabilitation, vaccination and optimal use of other preventive pharmacotherapy known to reduce exacerbations) have been optimised. Retrospective analysis of the trial by Albert et al found no evidence of treatment benefit among current smokers, with the greatest benefit seen in milder COPD and older patients (Han 2014). Prospective data in predefined groups is required before any sub-group treatment recommendations can be made.

Given the potential significant adverse effects of such regimens (including cardiac toxicity, ototoxicity, diarrhoea, and the development of antibiotic resistance which affects both the individual and the community), expert advice is recommended before starting long-term antibiotic therapy. It should be noted that azithromycin is not available on the PBS for long term use.

**P10. Oxygen therapy**

**Ambulatory oxygen therapy during pulmonary rehabilitation**

Discussion of a 2019 Australian RCT (Alison 2019), in which 111 subjects with moderate to severe COPD who had oxygen desaturation to <90% during 6-minute walk tests were randomised to either air or oxygen via nasal prongs at 5L/minute for 8 weeks of 3X/week treadmill and cycle exercise sessions. Both groups improved with respect to outcomes of Chronic Respiratory Disease Questionnaire and endurance shuttle walk test, however there was no additional benefit with supplementary oxygen. This RCT provides strong evidence that the provision of supplementary oxygen does not improve these important outcomes in such exercise programs even when subjects are known to desaturate to <90%.

**P11 Long-term non-invasive ventilation**

Section shortened.

**P12 Alpha1-antitrypsin deficiency**

Section shortened and updated to include cross-reference to the Alpha1 Position Paper published by TSANZ:

Alpha1-antitrypsin deficiency (AATD) is an inherited condition that increases the risk of developing pulmonary emphysema. Evidence for the diagnosis and treatment of patients with AATD-related lung disease has been comprehensively reviewed in a position statement endorsed by the Thoracic Society of Australia and New Zealand (TSANZ) (Dummer 2020).

## *D: Develop a plan of care*

**D4. Telehealth**

A further RCT including telemonitoring to detect deteriorations over 9 months reported no benefit on outcomes including time to first hospitalisation or quality of life (Walker 2018) [evidence level II].

## *X: Manage eXacerbations*

Analysis of over 1 million COPD admissions from a US national database that included patients of all age groups and all healthcare providers demonstrated a 19.2% 30 day readmission rate (Jacobs 2018).

**X2.2.2 Systemic corticosteroids for treatment of exacerbations**

Longer courses of prednisolone may increase mortality and pneumonia (Sivapalan 2019).

### X3.5 Develop post-discharge plan and follow-up

Supportive discharge care, sometimes known as transitional care, has been demonstrated to reduce COPD admissions and all cause re-admissions, with greatest likelihood of success with greater intervention duration (longer the better), use of phone calls, and multidisciplinary professional involvement (Ridwan 2019) [evidence level I].

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