

NEW VERSION OF COPD-X PLAN PUBLISHED

The most recent research on chronic obstructive pulmonary disease (COPD) is now reflected in the newly updated version of The Australian Lung Foundation's document *The COPD-X Plan: Australian and New Zealand Guidelines for the management of Chronic Obstructive Pulmonary Disease*.

Significant changes have been made to COPD-X which is available online on The Australian Lung Foundation's COPD-X website, www.copdx.org.au.

Professor Michael Abramson, who is Professor of Clinical Epidemiology and Deputy Head of the Department of Epidemiology and Preventive Medicine at Monash University in Melbourne, as well as Chair of The Australian Lung Foundation's COPD Evaluation Committee, said that these changes were extremely significant, "They put the COPD-X Plan amongst the most up-to-date guidelines in the world".

The key recommendations of the COPD-X Plan are included in the sections **C**onfirm diagnosis, **O**ptimise function, **P**revent deterioration, **D**evelop support network and self-management and **M**anage **eX**acerbations. A summary of the changes in each section can be found at - <http://www.copdx.org.au/summary-of-changes-in-version-226>

Three important changes to the Guidelines relate to medications, cardiac disease and the treatment of anxiety and depression. Commenting on these changes, Professor Abramson said,

"The benefits of triple therapy (tiotropium together with a combination of long acting beta agonist and inhaled corticosteroid) are now becoming clearer in COPD."

"The Evaluation Committee also recognises the importance of heart disease as a major comorbidity in COPD patients. The guidelines now include new sections on heart failure, statins and cardiac surgery and confirm the safety of beta-blockers," said Professor Abramson.

"Anxiety and depression are also important comorbid conditions in COPD and the section on psychological and pharmacological therapies has been extensively revised," Professor Abramson went on, "Finally Patient Support Groups and pulmonary rehabilitation programs can provide valuable psychosocial support to patients with COPD".

1. Medications

New evidence on the effectiveness of inhaled medications for COPD

Adherence to inhaled medications is associated with reduced risk of death and admissions to hospital due to COPD exacerbations

Prior to publication of this randomised double-blind trial (Vestbo et al, 2009) little evidence existed about adherence to inhaled medication in COPD and the impact on mortality and morbidity. Data on drug adherence from a randomised double-blind trial comparing inhaled salmeterol 50 microg + fluticasone propionate 500 microg twice daily with placebo and each drug individually in 6112 patients with moderate to severe COPD over three years in the TORCH (Towards a Revolution in COPD Health) study were used. The authors concluded that adherence to inhaled medication is significantly associated with

reduced risk of death and admission to hospital due to exacerbations in COPD, although further research is needed to understand these strong associations. (COPD-X Guidelines, Section O: Optimise function)

The use of "triple" therapy (tiotropium plus combination therapy) benefits patients with COPD

"Triple" therapy (tiotropium plus combination therapy) is associated with some benefits for patients with COPD – increase in FEV₁, benefits in symptom control, reduction in severe exacerbations, fewer hospitalisations, improvement in quality of life and decreased mortality, whereas ipratropium plus "triple therapy" is associated with increased risk of death.

Studies of "triple therapy" with inhaled glucocorticoids and long-acting beta-agonists and long-acting anticholinergics in combination have revealed conflicting results. A 12-week study of budesonide/formoterol with or without tiotropium (Welte et al., 2009) [evidence level II]* found a significant increase in FEV₁, the primary outcome, with triple therapy, mean difference pre-dosing 128 (95% CI 78, 179) mls. There was a significant benefit in symptom control and also reduction in severe (systemic glucocorticoids and/or hospitalisation/Emergency visit) exacerbations NNT = 9 (95% CI 8, 13). However, a longer term randomised study of one year comparing salmeterol or combined salmeterol/fluticasone in addition to tiotropium (Aaron et al., 2007) did not find "triple" therapy reduced the proportion of patients suffering at least one exacerbation, the primary study endpoint. Despite this, patients receiving "triple" therapy did experience fewer hospitalisations for COPD and for all causes, as well as a clinically significant improvement in their quality of life [evidence level II]*. (COPD-X Guidelines, Section O4.2 Inhaled glucocorticoids and long-acting beta-agonists and long-acting anticholinergics in combination)

In another study by Lee (Lee et al., 2009) using a retrospective cohort design, combination therapy with tiotropium plus inhaled glucocorticoid and long-acting beta agonist was associated with decreased mortality compared with the combination therapy alone, whereas when tiotropium was added to combination therapy with ipratropium (in combination with inhaled glucocorticoid or long acting beta agonist or theophylline), in a so called "real world" scenario, mortality risk was increased [evidence level III-2]*. (COPD-X Guidelines, Section O1.2.1 Long-acting anticholinergics)

Evidence supports the practice of treating acute exacerbations with systemic glucocorticoids and antibiotics

A new section has been added with evidence included to support the treatment of acute exacerbations with systemic glucocorticoids (prednisolone) and antibiotics (doxycycline).

A recent randomized placebo controlled trial (Daniels et al., 2010) has provided evidence to support the traditional practice of treating acute exacerbations with a combination of systemic glucocorticoids and antibiotics. In this study, hospitalised patients were commenced on a tapering dose of prednisolone and randomised to receive doxycycline 200mg daily or placebo for 7 days. Clinical cure, defined as complete resolution of signs and symptoms, at day 10 was significantly higher in the antibiotic treated group compared to placebo (OR 1.9, 95% CI 1.2 to 3.2, NNT = 7, 95% CI 4 to 523). By day 30, the primary end point, there was no significant difference in clinical cure. Serious adverse effects occurred in 9% of the doxycycline group (7 deaths) and 5% of the placebo group (3 deaths). Medication adverse events were similar between groups, 3% in the doxycycline group and 4% in the placebo. (COPD-X Guidelines, Section X2.2.4 Combined systemic glucocorticoids and antibiotics for treatment of exacerbation)

New evidence on the effectiveness of oral medications for COPD

Long-term studies of the use of phosphodiesterase type-4 inhibitors (PDE-4) confirm benefits previously seen in studies of up to six months

Placebo controlled RCTs have now been extended to 52 weeks. (Calverley et al., 2009) They confirm a consistent improvement in pre-bronchodilator FEV₁ and a 17% reduction in the annual rate of exacerbations with roflumilast. The effects on lung function, exacerbations and breathlessness are additive to those of long acting bronchodilators such as salmeterol and tiotropium (Fabbri et al., 2009) [evidence level II]*. (COPD-X Guidelines, Section O2.2 Phosphodiesterase type-4 inhibitors)

2. Cardiac disease

COPD patients possess an increased burden of cardiovascular disease, cardiac arrhythmias and cardiac failure compared with the normal population. The cardiac disease section has been revised with the inclusion of new sub-sections on heart failure, statins and cardiac surgery and the rewording of the sub-section, safety of beta-blockers. (**COPD-X Guidelines, Section O7.1 Cardiac disease, Section O7.1.1 Heart failure, O7.1.2 Safety of beta-blockers, Section O7.1.3 Statins, and Section O7.1.4 Cardiac surgery**)

3. Treatment of Anxiety and Depression

Psychological therapies are recommended for the treatment of anxiety and depression in COPD patients; caution advised with the use of pharmacological therapies for anxiety and depression

The whole section on treating anxiety and depression has been reworded with the addition of new supporting references and discussion of psychological therapies and pharmacological therapies. (**COPD-X Guidelines, Section D4 Treat anxiety and depression**)

Patient Support Groups and pulmonary rehabilitation programs can provide psychosocial support to patients with COPD

COPD-X recognises the role of Patient Support Groups in providing emotional support to those affected by COPD. Pulmonary rehabilitation programs can also help with the anxiety and depression which patients with COPD often experience.

Support groups may provide people with COPD and their carers with emotional support, social interaction, and new knowledge and coping strategies, although studies specifically evaluating the benefits of these groups for improving quality of life and psychological well-being are yet to be conducted. Pulmonary rehabilitation provides a good opportunity to initiate support group attendance.

Lung support groups may provide patients and carers with emotional support, social interaction, and other social outlets, and help them gain new knowledge and coping strategies. A list of Patient Support Group names and locations can be accessed via The Australian Lung Foundation's website at <http://www.lungfoundation.com.au/lung-information/patient-support/-support-groups-australia-and-nz>. Contact details can be obtained from The Australian Lung Foundation's LungNet Information and Support Centre (free-call 1800 654 301). In New Zealand, contact the Asthma and Respiratory Foundation of New Zealand (phone +64 4 499 4592; Internet address, <http://www.asthmanz.co.nz>).

People with COPD are vulnerable to developing symptoms of anxiety and depression, which then worsen quality of life and disability(Xu et al., 2008, Eisner et al., 2010). Pulmonary rehabilitation has been associated with short-term reductions in anxious and depressive symptoms(Coventry and Hind, 2007), however the role of the psychosocial support component of pulmonary rehabilitation in reducing psychological distress is not yet clear(Coventry, 2009). Additional intervention by mental health specialists will be required for clinically significant symptoms of anxiety or depression(Livermore et al., 2010).

(**COPD-X Guidelines, Section O6.3.1 Psychosocial Support**)

*For an explanation of evidence levels, please see <http://www.copdx.org.au/levels-of-evidence>

The COPD-X Guidelines are the outcome of a joint project of the Thoracic Society of Australia and New Zealand and The Australian Lung Foundation. The Guidelines aim to effect changes in clinical practice based on sound evidence as well as shift the emphasis from a predominant reliance on the pharmacological treatment of COPD to a range of interventions which include patient education, self-management of exacerbations and pulmonary rehabilitation.

These Guidelines deal predominantly with the management of established disease and exacerbations. However, this is only one element of the COPD Strategy of The Australian Lung Foundation, which has the long-term goals of primary prevention of smoking, improving rates of smoking cessation, early detection of airflow limitation in smokers before disablement and improved management of stable disease and prevention of exacerbations.

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For media enquiries, please contact Bridget Dixon, Marketing & Public Relations Officer, The Australian Lung Foundation on 07 3251 3644, bridget@lungfoundation.com.au or 0413 778 435

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