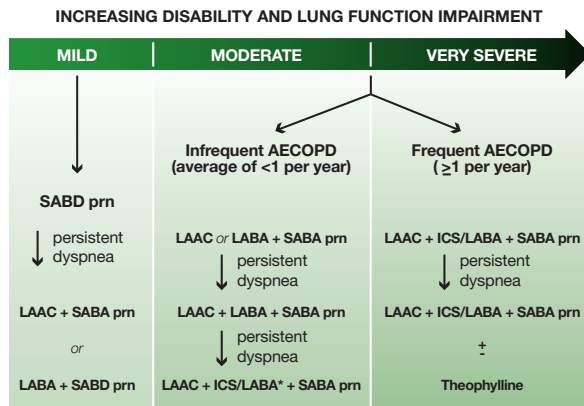


Pharmacotherapy in COPD



* refers to lower dose ICS/LABA

- SABD = short-acting bronchodilator (e.g. ipratropium or SABA)
- LAAC = long acting anticholinergic (e.g. tiotropium)
- LABA = long acting beta agonist (e.g. salmeterol; formoterol)
- SABA = short-acting beta agonist (e.g. salbutamol; terbutaline)
- ICS/LABA = inhaled corticosteroid/LABA (e.g. fluticasone/salmeterol; budesonide/formoterol)

Bronchodilators are the mainstay of pharmacotherapy. They reduce air trapping and improve dyspnea and quality of life even if there is no improvement in spirometry.

Pharmacotherapy Assessment

Assess patient response to therapy. Where there is no benefit, consider dose adjustment, inhaler technique, and assess compliance.

Long-term oxygen therapy

Long-term oxygen therapy can improve survival and function in appropriately chosen, stable COPD patients with chronic hypoxemia (PaO₂ of 55 mm Hg or lower), or when PaO₂ is less than 60 mm Hg in the presence of bilateral ankle edema, cor pulmonale or a hematocrit of greater than 56%.

Chronic Disease Management

Family physicians have a pivotal role in COPD management. Patients with COPD will benefit from participation in a chronic disease management program that incorporates family physicians, COPD educators, specialists, and other health care professionals.

AECOPD

Acute Exacerbations of COPD

Acute exacerbations are the most frequent cause of medical visits, hospital admissions and death among COPD patients. Apart from optimizing bronchodilators patients with purulent AECOPD benefit from antibiotics. Severe COPD patients benefit from a short course of systemic corticosteroids.

AECOPD Defined

A sustained worsening of dyspnea, cough or sputum production leading to an increase in the use of maintenance medications and/or supplementation with additional medications. It is further classified as purulent or non-purulent.

AECOPD are preventable with optimal management of COPD.

- Smoking Cessation + Vaccinations
- Self-Management Education with written AECOPD Action Plan
- Regular long acting bronchodilator therapy
- Pulmonary rehabilitation
- Regular ICS/LABA therapy
- Optimized treatment for AECOPD (short course of systemic steroids; appropriate antibiotics for purulent exacerbation)

End of Life Care

COPD is a progressive, disabling condition that may lead to respiratory failure and death. Physicians have a responsibility to discuss end of life issues and to provide support to COPD patients and their caregivers. Profile of a COPD patient at risk of death: very severe airflow obstruction (FEV₁ < 35% predicted), poor functional status (MRC 4-5), poor nutritional status (BMI < 19), recurrent severe AECOPD, older age, and pulmonary hypertension.

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RECOMMENDATIONS
FOR THE MANAGEMENT OF

Chronic Obstructive Pulmonary Disease (COPD) 2008 Update



Recommendations for the management of Chronic Obstructive Pulmonary Disease (COPD)

What is COPD?

COPD, a respiratory disorder largely caused by smoking, is characterized by progressive, partially reversible airway obstruction and lung hyperinflation, systemic manifestations, and increasing frequency and severity of exacerbations.

Who should be targeted for screening?

Smokers or ex-smokers more than 40 years old; And answers yes to any question below:

1. Do you cough regularly?
2. Do you cough up phlegm regularly?
3. Do even simple chores make you short of breath?
4. Do you wheeze when you exert yourself or at night?
5. Do you get frequent colds that persist longer than those of other people?

Early diagnosis, confirmed by spirometry is key to optimal management.

Definition of "airflow obstruction"

A post-bronchodilator FEV₁ / FVC < 0.70 indicates air flow obstruction.

- FEV₁ = forced expiratory volume in one second
- FVC = forced vital capacity



Epidemiology of COPD in Canada

As many as 750,000 Canadians have been diagnosed with COPD.

- The prevalence continues to rise, particularly among women.
- It is the fourth leading cause of death in Canada.
- Imposes huge psychosocial and financial burdens on Canadians.
- COPD is underdiagnosed.

Evaluation of COPD

Disease severity can be assessed using the Medical Research Council Dyspnea Scale.

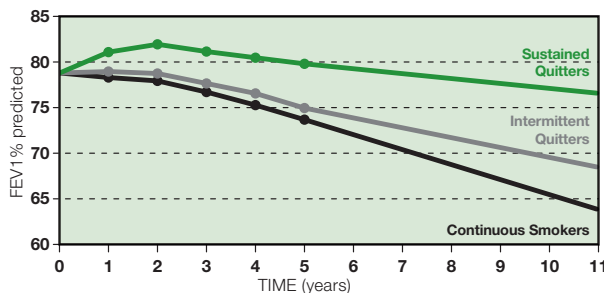
| COPD stage | Symptoms |
|-----------------|--|
| Mild | Shortness of breath from COPD when hurrying on the level or walking up a slight hill (MRC 2). |
| Moderate | Shortness of breath from COPD causing the patient to stop after walking about 100 m (or after a few minutes) on the level (MRC 3-4). |
| Severe | Shortness of breath from COPD resulting in the patient too breathless to leave the house, breathlessness after dressing/undressing (MRC 5), or the presence of chronic respiratory failure or clinical signs of right heart failure. |

Management

Smoking cessation

Smoking cessation is the single most effective intervention that reduces both the risk of developing COPD and slows its progression.

Adapted with permission from the American Thoracic Society (*Am. J. Respir. Crit. Care Med.*)



COPD is amenable to therapy

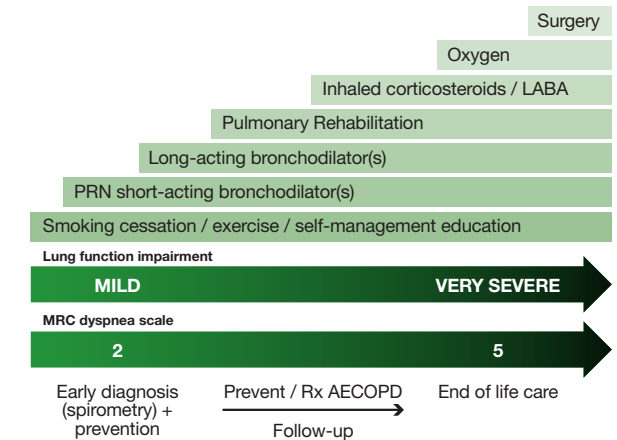
Management strategies should combine pharmacotherapy and non-pharmacotherapy interventions in order to improve symptoms, activity levels and quality of life.

Education of both the patient and their family is invaluable.

The goals of management of COPD are as follows:

1. To prevent disease progression (smoking cessation);
2. To alleviate breathlessness and other respiratory symptoms;
3. To improve exercise tolerance and daily activity;
4. To reduce frequency and severity of exacerbations;
5. To treat exacerbations and complications of the disease;
6. To improve health status; and
7. To reduce mortality.

An approach to the management of chronic obstructive pulmonary disease.



Non-Pharmacotherapy

All COPD patients should be encouraged to remain active. Stable, symptomatic patients should be referred to a comprehensive **pulmonary rehabilitation program**, which includes exercise training and **self-management education**. Benefits include reduced dyspnea, improved exercise tolerance and quality of life which, in turn reduces the burden on the healthcare system.