

Adapted in 2010 from Canadian Thoracic Society Recommendations for Management of Chronic Obstructive Pulmonary Disease (Can Respir J 2008;15 Suppl A; [www.respiratoryguidelines.ca](http://www.respiratoryguidelines.ca)) and the Global Initiative for COPD ([www.goldcopd.com](http://www.goldcopd.com)).

## Diagnosis

Confirm diagnosis and assess severity by objective measures:

- (1) Spirometry (the simplest and preferred diagnostic test):
  - Postbronchodilator ratio FEV<sub>1</sub>/FVC of less than 0.70
- (2) Physical examination and chest x-ray are not diagnostic but are helpful to exclude other diagnoses or to look for comorbidities. Several other tests are useful to further assess clinical manifestation:
  - Pulmonary Function Testing
  - Exercise Testing
  - Arterial Blood Gas
  - Nutrition Assessment
  - Echocardiography
  - Sputum Cytology

### PRACTICE POINTS

Most patients with COPD are not diagnosed until the disease is well advanced, but spirometry targeted at those who are at risk can establish an earlier diagnosis to help change the progression of the disease.

**Who should undergo spirometry testing to detect COPD?** Smokers or ex-smokers 40 years of age and older who have one of the following: persistent cough and/or phlegm, wheeze, frequent respiratory tract infections, or progressive activity-related shortness of breath.

Consider referral to a specialist when: diagnosis is uncertain, symptoms are severe or disproportionate relative to spirometry results, accelerated decline of lung function, onset of symptoms is at a younger age (< 40 years), failure to respond to bronchodilator therapy, severe or recurrent exacerbations, complex comorbidities, assessment for pulmonary rehabilitation, home oxygen, and/or surgical therapies.

COPD is treatable at any stage of the disease. Management goals include prevention of disease progression (smoking cessation), reduction of frequency and severity of exacerbations, improvement of both dyspnea and exercise capacity (maintain active lifestyle), and improvement of quality and quantity of life. Effective COPD education is individualized and varied according to disease severity; patient and family need support based on COPD specific self-management principles including:

- Counseling for smoking cessation
- Vaccination annually for influenza and once for pneumococcal infection
- Review medication device use technique
- Review the indicators, prevention, and treatment for acute exacerbations (AECOPD)
- Review a personalized written action plan
- Identify strategies and resources pertaining to relief of dyspnea
- Identify a support team, including a certified respiratory educator
- Identify patients who would benefit from pulmonary rehabilitation

### PRACTICE POINTS

Smoking cessation is the single most effective intervention to reduce the risk of developing COPD and the only intervention that has been shown to slow its progression. Systematically offer minimal counseling interventions (less than 3 minutes) to every smoker and provide them with the option for more counseling and pharmacotherapy to further improve quit rates.

For a listing of available services visit [www.albertaquits.ca](http://www.albertaquits.ca)

## Routine Management

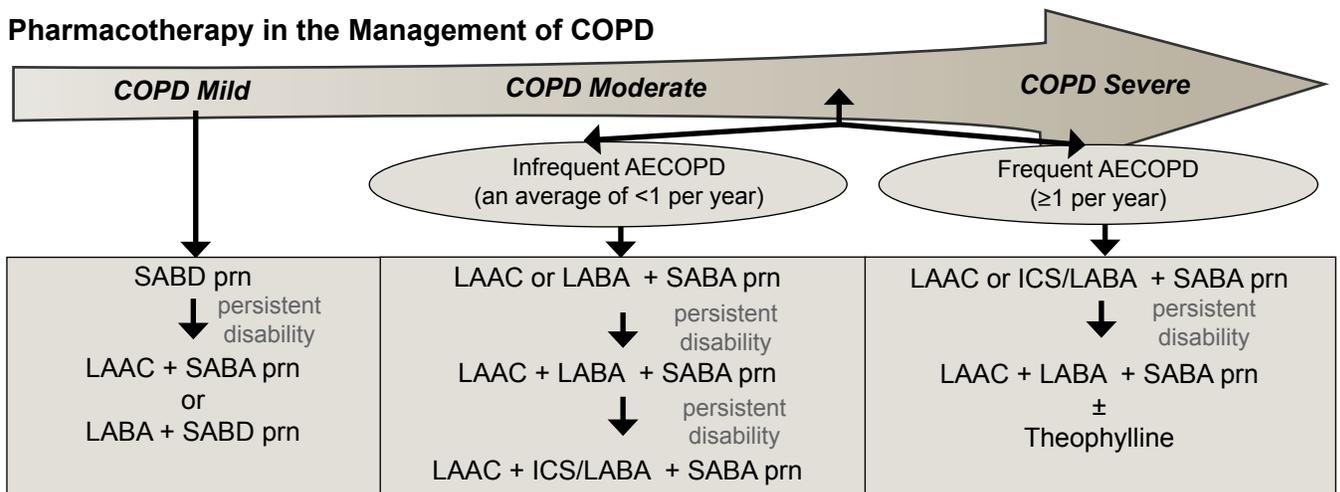


| COPD Severity | Symptoms  |
|---------------|---|
| Mild          | Shortness of breath from COPD when hurrying on the level or walking up a slight hill. Postbronchodilator FEV <sub>1</sub> ≥ 80% predicted.  |
| Moderate      | Shortness of breath causing patient to stop after walking about 100 meters (or after a few minutes) on the level. Postbronchodilator FEV <sub>1</sub> < 50-80% predicted.   |
| Severe        | Shortness of breath resulting in the patient too breathless to leave the house or breathless after dressing/undressing or the presence of chronic respiratory failure or clinical signs of heart failure. Postbronchodilator FEV <sub>1</sub> < 30-50% predicted. |

## Pharmacotherapy

- Inhaled therapy is preferred and bronchodilators (e.g., beta<sub>2</sub> agonists and anticholinergics) are the mainstay of COPD pharmacotherapy. They reduce air trapping (lung hyperinflation) and dyspnea, and improve exercise capacity and quality of life even if there is no improvement in spirometry.
- Optimal pharmacotherapy of COPD is individual and is guided by disease severity and frequency of acute exacerbations (AECOPD).
- Combining bronchodilators of different classes may increase efficacy compared with increasing the dose of a single bronchodilator.

## Pharmacotherapy in the Management of COPD



## AECOPD

AECOPD are associated with high costs of care, increased health care utilization, decreased quality of life, and increased mortality so management and prevention of AECOPD is critically important. At least 50% of AECOPD are thought to be infectious and other triggering factors include CHF, exposure to irritants, and pulmonary embolism.

## Pulmonary Rehabilitation

Clinically stable patients who remain dyspneic and limited in their exercise capacity despite optimal pharmacotherapy should be referred for supervised pulmonary rehabilitation.

### PRACTICE POINT

For a listing of available services for COPD in Alberta, view the 'Resource Catalogue' at [www.canahome.org](http://www.canahome.org) under 'key resources;' other standardized tools are also available.

## Oxygen

Long term continuous oxygen therapy (>15 hr/day to achieve saturation of > 90%) offers a survival advantage to patients with stable COPD who have arterial oxygen tension <55mmHg on air.