

# COPD Care Map for Primary Care

Patient Name: \_\_\_\_\_ DOB: \_\_\_\_\_

Year of diagnosis: \_\_\_\_\_ Co-morbid conditions: \_\_\_\_\_

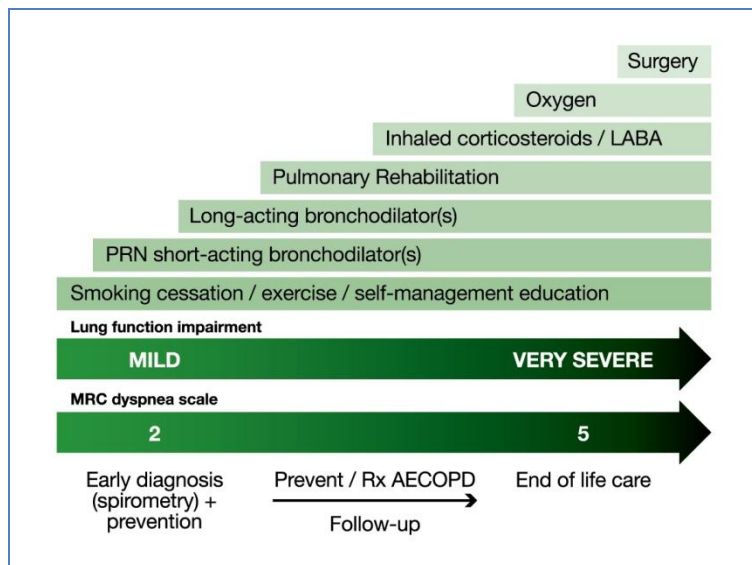
Smoking history: \_\_\_\_\_ Occupational exposure: \_\_\_\_\_

Ensure diagnosis of COPD was made with post bronchodilator spirometry testing to meet the Canadian Thoracic Society criteria to establish a diagnosis of COPD: *Post bronchodilator FEV<sub>1</sub>/FVC ratio < 0.7 (or compared to the lower limit of normal)*

		REVIEW ITEMS	VISIT DATES				
			Date:	Date:	Date:		
REGULAR OFFICE VISITS FOR COPD	ASSESSMENT / SEVERITY	<b>Medical Research Council (MRC) Dyspnea Scale</b> (Recommended by CTS for assessment of disability from COPD)					
		Grade 1 ( <b>Very Mild</b> ): SOB only with strenuous exercise					
		Grade 2 ( <b>Mild</b> ): SOB when hurrying on a level surface or walking up slight hill					
		Grade 3 ( <b>Moderate</b> ): Walks slower than people of same age on the level, or stops for breath while walking at own pace on the level					
		Grade 4 ( <b>Moderate</b> ): Stops for breath after walking about 100 yards					
	Grade 5 ( <b>Severe</b> ): Too SOB to leave the house, or SOB when dressing						
	Consider blood gas when FEV <sub>1</sub> < 40% (if resting SpO <sub>2</sub> < 90%)						
	Signs/symptoms of right heart failure (If yes, COPD is severe) i.e. ankle edema +/- fatigue, SOB on exertion						
	BMI classification (underweight <18.5 kg/m <sup>2</sup> ; overweight ≥ 25 kg/m <sup>2</sup> )						
	Clinical signs of depression / anxiety						
MANAGEMENT	Smoking cessation if smoking - 3 A's model (Ask, Advise, Arrange)						
	Cigarettes/day:						
	Cessation medications (Nicotine replacement, Zyban, Champix)						
	Short-acting bronchodilator:						
	Long-acting beta-agonist (LABA):						
	Long-acting anticholinergic:						
	LABA/Inhaled corticosteroid combination:						
	Other medicines:						
	Vaccinations: <ul style="list-style-type: none"> <li>Annual influenza vaccine</li> <li>Pneumococcal vaccine given at least once and repeated in 5 to 10 years</li> </ul>						
	Review proper inhaler technique with patient						
Encourage regular exercise							
Revise or review written action plan: <a href="http://www.COPDActionPlan.com">www.COPDActionPlan.com</a>							
Acute Exacerbation COPD (AECOPD): <ul style="list-style-type: none"> <li>AECOPD Date(s):</li> <li>Purulent (P) / Non-Purulent (NP)</li> </ul>	<input type="checkbox"/> P <input type="checkbox"/> NP	<input type="checkbox"/> P <input type="checkbox"/> NP	<input type="checkbox"/> P <input type="checkbox"/> NP	<input type="checkbox"/> P <input type="checkbox"/> NP	<input type="checkbox"/> P <input type="checkbox"/> NP	<input type="checkbox"/> P <input type="checkbox"/> NP	
TESTS	Post bronchodilator spirometry testing – FEV <sub>1</sub> % predicted						
	Blood work: <ul style="list-style-type: none"> <li>CBC to rule out polycythemia</li> <li>Alpha-1-Antitrypsin (AAT): If serum blood level ≤ 1.5 g/L (or below the normal mean for the testing laboratory), screen for AAT phenotype (Pi Type) (do not test during acute exacerbation)</li> </ul>						
	Sputum gram stain & culture when purulent AECOPD if: very poor lung function, AECOPD > 3/year or has been on antibiotics in last 3 months						
AS NEEDED REFERRALS	COPD education program						
	Pulmonary rehabilitation program						
	Smoking cessation						
	Sleep clinic/sleep lab if sleep disordered breathing suspected						
	Refer to specialist if: <ul style="list-style-type: none"> <li>Not certain of the diagnosis</li> <li>Symptoms not proportional to level of airway obstruction</li> <li>Accelerated decline of lung function (FEV<sub>1</sub> declines 80 ml or more per year over a two year period)</li> <li>Symptom onset at a young age (&lt; 40 years)</li> <li>Suspect alpha-1-antitrypsin deficiency (see TESTS section)</li> <li>Not responding to therapy</li> <li>Severe or recurring acute exacerbations</li> </ul>						
	Canadian respiratory guidelines: <a href="http://www.respiratoryguidelines.ca">www.respiratoryguidelines.ca</a>						
	<b>Signature:</b>						

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## Treatment Options from the 2008 Canadian Thoracic Society Recommendations for Management of COPD



Adapted from: Can Respir J 2008;15(Suppl A):4A.

### Short-Acting Bronchodilators

-- For symptomatic or rescue treatment --

**Salbutamol (Ventolin, Airomir)** MDI / spacer 100 mcg per dose  
2 inhalations QID prn

**Ipratropium (Atrovent)** MDI / spacer 20 mcg per dose  
2 inhalations QID prn

**Terbutaline (Bricanyl)** Turbuhaler 0.5 mg per dose  
1 inhalation QID prn

### Long-Acting Anti-Cholinergic Bronchodilators

**Tiotropium (Spiriva)** Handihaler 18 mcg per dose  
Contents of 1 capsule inhaled QD  
(Atrovent is not recommended to be combined with Spiriva)

### Long-Acting Beta-Agonist (LABA) Bronchodilators

-- Can be used alone or in a combination product --

**Salmeterol (Serevent)** Diskus 50 mcg per dose  
1 inhalation BID

**Formoterol (Oxeze)** Turbuhaler 6 or 12 mcg per dose  
1 to 2 inhalations BID of 6 mcg dose  
1 inhalation BID of 12 mcg dose

### Long-Acting Beta Agonist / Inhaled Corticosteroid (LABA/ICS) Combinations

-- For moderate to severe COPD with SOB despite optimal bronchodilator therapy, replace LABA with LABA/ICS combination --

(If < 1 Acute Exacerbation COPD per year use **lower dose** ICS; If ≥ 1 Acute Exacerbation COPD per year use **higher dose** ICS)

**Symbicort** (formoterol 6 mcg / budesonide 100 or 200 mcg per dose) **Turbuhaler** 2 inhalations BID

**Advair** (salmeterol 25 mcg / fluticasone 125 or 250 mcg per dose) **MDI / spacer** 2 inhalations BID

**Advair** (salmeterol 50 mcg / fluticasone 100, 250 or 500 mcg per dose) **Diskus** 1 inhalation BID

### Other Medicines

**Theophylline** has weak bronchodilator and anti-inflammatory effects; modest potential benefits need to be weighed against the risk of severe side effects and potential drug interactions.

**PDE4 inhibitor: Daxas (roflumilast)** may inhibit COPD-related inflammation (a role in COPD management has not been clarified in current Canadian COPD guidelines). It is recommended that patients with recurrent exacerbations should be referred to a respirologist.

**Home Oxygen Program:** [www.health.gov.on.ca/english/public/pub/adp/oxphys.html](http://www.health.gov.on.ca/english/public/pub/adp/oxphys.html)

### Acute Exacerbations of COPD (AECOPD)

Inhaled bronchodilators to treat dyspnea in AECOPD; consider salbutamol and ipratropium bromide initially (24-48hrs), then resume maintenance bronchodilator therapy.

No role for the initiation of theophylline during AECOPD; possible drug interactions with antibiotics.

Oral/parenteral steroids for 7-14 days in most **moderate to severe** patients with COPD; limited data on benefits in patients with mild COPD ( $FEV_1 > 60\%$  of predicted); dosages of 25 to 50 mg prednisone per day are recommended.

Antibiotic therapy is recommended **only for those patients with AECOPD due to an infectious cause, i.e., purulent exacerbations; (as characterized by increased dyspnea, increased sputum and purulent sputum)**; refer to chart below (adapted from 2008 Canadian Thoracic Society Recommendations for Management of COPD):

#### Antibiotic treatment recommendations for purulent acute exacerbations of chronic obstructive pulmonary disease (COPD)

Group	Basic clinical state	Symptoms and risk factors	Probable pathogens	First choice
Simple exacerbation	COPD without risk factors	Increased sputum purulence and dyspnea	<i>Haemophilus influenzae</i> , <i>Haemophilus</i> species, <i>Moraxella catarrhalis</i> , <i>Streptococcus pneumoniae</i>	Amoxicillin, second- or third-generation cephalosporins, doxycycline, extended-spectrum macrolides, trimethoprim/sulfamethoxazole (in alphabetical order)
Complicated exacerbation	COPD with risk factors	As in simple plus at least one of: • $FEV_1 < 50\%$ predicted • ≥ 4 exacerbations per year • Ischemic heart disease • Use of home oxygen • Chronic oral steroid use	As in simple plus: • <i>Klebsiella</i> species and other Gram-negatives • Increased probability of beta-lactam resistance • <i>Pseudomonas</i> species	Fluoroquinolone (gemifloxacin, levofloxacin, moxifloxacin), beta-lactam/beta-lactamase inhibitor (amoxicillin/clavulanic acid) (in order of preference) (antibiotics for simple exacerbation if combined with prednisone)
Repeat prescriptions of the same antibiotic class should be avoided within a three-month interval. $FEV_1$ Forced expiratory volume in 1 s				
Adapted from: Can Respir J 2008;15(Suppl A):7A.				

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