

2017 GOLD Guidelines: Part 2- Treatment

- ◆ The goal of pharmacologic therapy is to reduce COPD symptoms, frequency and severity of symptoms, and improve health status and exercise intolerance. Pharmacologic treatment selection should be guided by severity of symptoms, risk of exacerbations, side effects, comorbidities, drug availability and cost, and the patient's response, preference and ability to use the drug delivery device. Proper inhaler technique is essential. Please ask your Health Direct Pharmacist about proper inhalation technique for each device listed below.
- ◆ In addition to pharmacologic therapy, smoking cessation is HIGHLY encouraged if the patient is a smoker.
- ◆ Influenza and pneumococcal vaccination are also recommended to decrease the incidence of lower respiratory infections.
- ◆ **Pharmacologic treatment:**
 - Bronchodilators in general help to prevent or reduce symptoms
 - Short-acting bronchodilators:
 - Used for treatment of stable COPD episodic symptoms.
 - Short-acting beta₂ agonist (SABA): Albuterol (Ventolin, Proair) MDI (4 times daily and/or PRN); Levalbuterol (Xopenex) (4 times daily and/or PRN)
 - Short-acting muscarinic antagonist (SAMA): Ipratropium (Atrovent) MDI (4 times daily)
 - Not recommended to use SAMA with a LAMA—use a SABA instead for better efficacy and tolerability.
 - Long-acting bronchodilators:
 - Long-acting beta₂ agonist (LABA):

Medication	Dose
Formoterol (Foradil) Aerolizer	One unit 2 times daily
Indacaterol (Arcapta) Neohaler	Inhale contents of one capsule daily
Oldaterol (Striverdi) Respimat	Two actuations inhaled once daily
Aformoterol (Brovana) Neb	Inhale contents of one vial twice daily
Salmeterol (Serevent) Diskus	One inhalation twice daily

- Long-acting muscarinic antagonists (LAMA): Clinical trials have shown a greater effect on exacerbation rates for LAMA treatment (tiotropium) versus LABA treatment. Recommended as first line for mild/moderate COPD.

Medication	Dose
Acclidinium (Tudorza) Pressair	One actuation twice daily
Glycopyrrolate (Seebri) Neohaler	One capsule inhaler twice daily
Tiotropium (Spiriva) Handihaler or Respimat	Two inhalations once daily
Umeclidinium (Incruse) Ellipta	One inhalation once daily

Combinations

- SABA/SAMA Combo: Albuterol/Ipratropium (Combivent): 4 times daily
- LABA/LAMA Combo

Medication	Dose
Formoterol/Glycopyrrolate (Bevespi) Aerosphere	Two inhalations twice daily
Indacaterol/Glycopyrrolate (Utibron) Neohaler	One capsule inhaled twice daily
Olodaterol/Tiotropium (Stiolto) Respimat	Two inhalations once daily
Vilanterol/Umeclidinium (Anoro) Ellipta	One inhalation once daily

- LABA/Inhaled corticosteroid (ICS) Combo (for moderate-very severe):

Medication	Dose
Formoterol/Budesonide (Symbicort)	Two inhalations twice daily
Salmeterol/Fluticasone (Advair/Diskus)	One capsule inhaled twice daily
Vilanterol/Fluticasone (Breo) Ellipta	Two inhalations once daily
Formoterol/Mometason (Dulera)	One inhalation once daily

◆ Pharmacologic treatment algorithm by GOLD Grade for Stable COPD:

Grade	1st Line Treatment	Escalating Symptoms
Group A	Bronchodilator: SABA, SAMA, or LABA or LAMA if needed to improve symptoms	Try a bronchodilator in a different class if not effective
Group B	A long-acting bronchodilator (LABA or LAMA)	If symptoms persist: LABA plus a LAMA
Group C	LAMA	If further exacerbations; LAMA plus a LABA (preferred). Can add ICS to LABA if frequent exacerbations
Group D	LAMA + LABA (add ICS if frequent exacerbations)	-Consider roflumilast (Daliresp) to decrease exacerbations if patient has chronic bronchitis and FEV ₁ <50 % pred. -Consider macrolide to decrease exacerbations in former smokers. Increased risk of antibiotic resistance.

◆ Other Therapies:

- Oral glucocorticoids should only be used to help manage acute exacerbations. Chronic daily treatment in COPD is not recommended due to lack of evidence of benefit and numerous noted adverse effects.
- Antitussives: no evidence of benefit, therefore not recommended.

◆ References:

1. Global Initiative for Chronic Obstructive Lung Disease (GOLD): global strategy for the diagnosis, management, and prevention of COPD. www.goldcopd.org . Accessed May 16, 2018.
2. Clinical Pharmacology. <https://www.clinicalkey.com/pharmacology>. Accessed May 16, 2018

Show What You Know

COPD Quiz

1) The following are recommended as part of the treatment guidelines for COPD except:

- a. Smoking cessation
- b. Influenza vaccination
- c. Pneumococcal vaccination
- d. Antitussives

2) True or False

Routine treatment with oral steroids is recommended along all stages of COPD to help prevent exacerbations.

3) True or False

Clinical trials have shown a greater effect on exacerbation rates for LAMA treatment (tiotropium) versus LABA treatment.

4) The following inhaler can be used for symptomatic (i.e. rescue) treatment of COPD:

- a. Albuterol (Ventolin)
- b. Salmeterol (Serevent)
- c. Salmeterol/Fluticasone (Advair)
- d. Tiotropium (Spiriva)

Quiz Answers- How Did You Do?

1. D
2. False
3. True
4. A