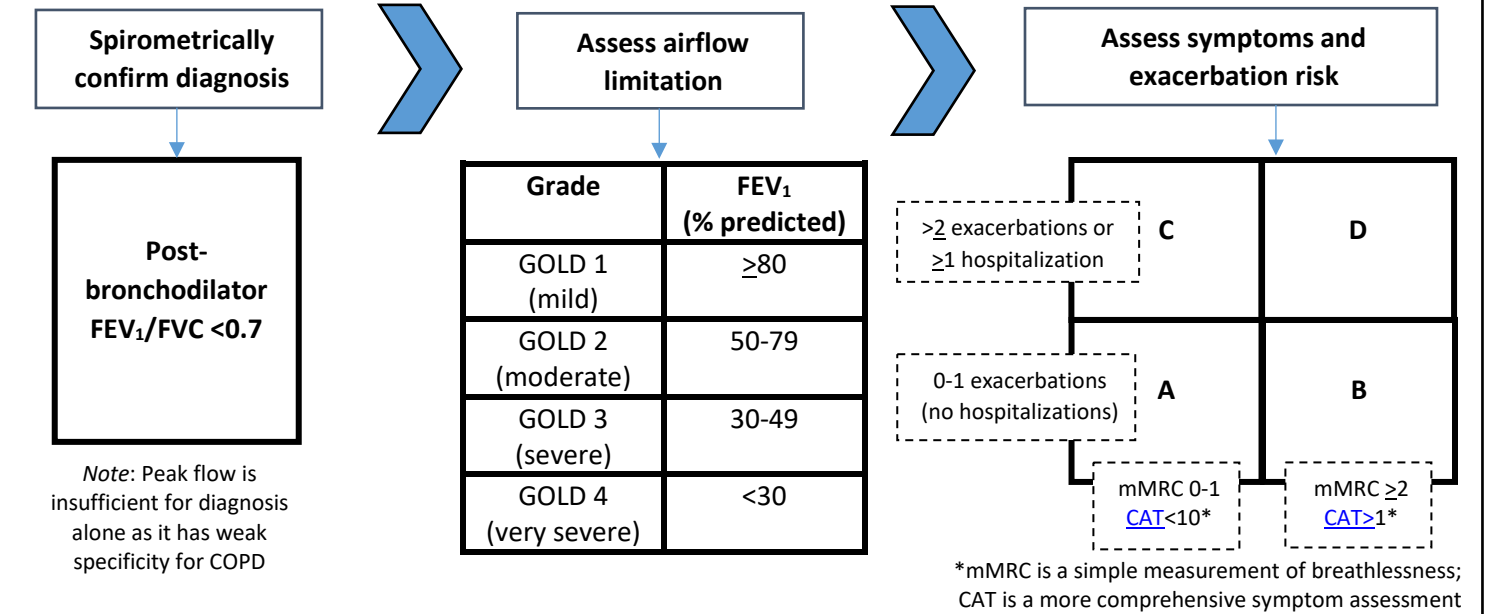
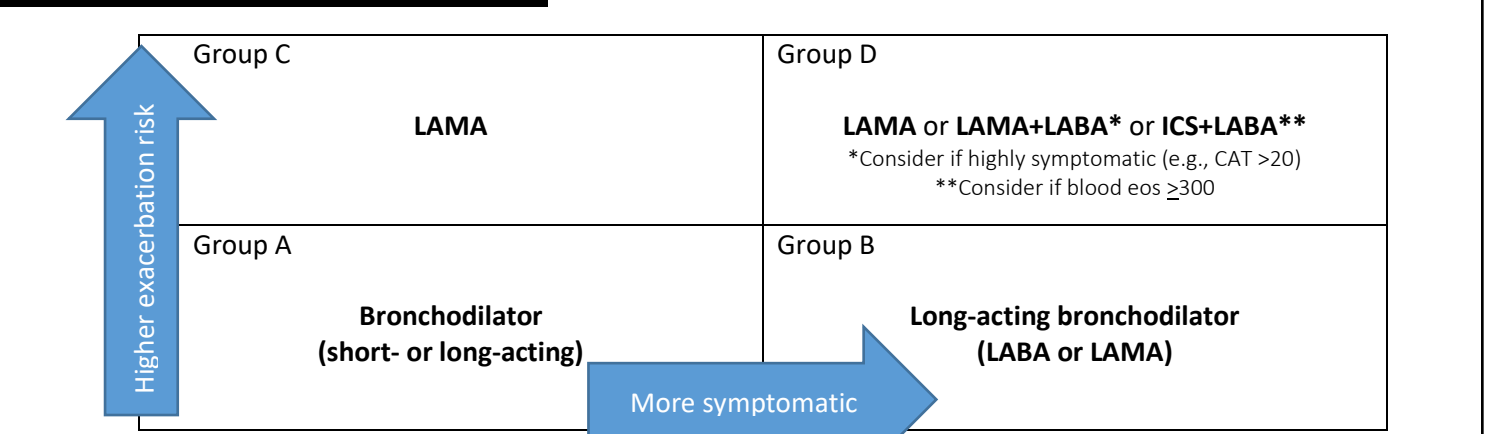


Adapted from 2020 GOLD Guidelines

Diagnosing and Categorizing COPD



Initiating Pharmacologic Therapy



Inhaled Medication Selection and Management Tips

- **Agent/inhaler device selection within each class should be individualized.** Choice is guided by symptom severity, exacerbation risk, side effects, comorbidities, drug availability and cost/insurance coverage, as well as patient’s response, preference and ability to use various delivery devices.
- **All patients should be offered a short-acting bronchodilator (beta-2 agonist, antimuscarinic or combination)** to use as needed for immediate symptom relief. Combination SABA+SAMA therapy may be more effective.
- **LAMA is the preferred drug class in patients with moderate to very severe COPD (Groups C-D).** Clinical trials have shown a greater reduction in exacerbations and hospitalizations for LAMAs (tiotropium) versus LABAs.
- **LAMA+LABA combo therapy is recommended for severe COPD (Group D) in patients who are highly symptomatic.** Studies involving patient-related outcomes suggest improved response compared to single agents.
- **ICS+LABA combo therapy should be reserved for select patients who may benefit due to higher risk of pneumonia and side effects (Group D).** Patients with asthma or blood eosinophils ≥300 cells/microliter may benefit from ICS.



Pharmacy Pearls

Pharmacological Management of COPD

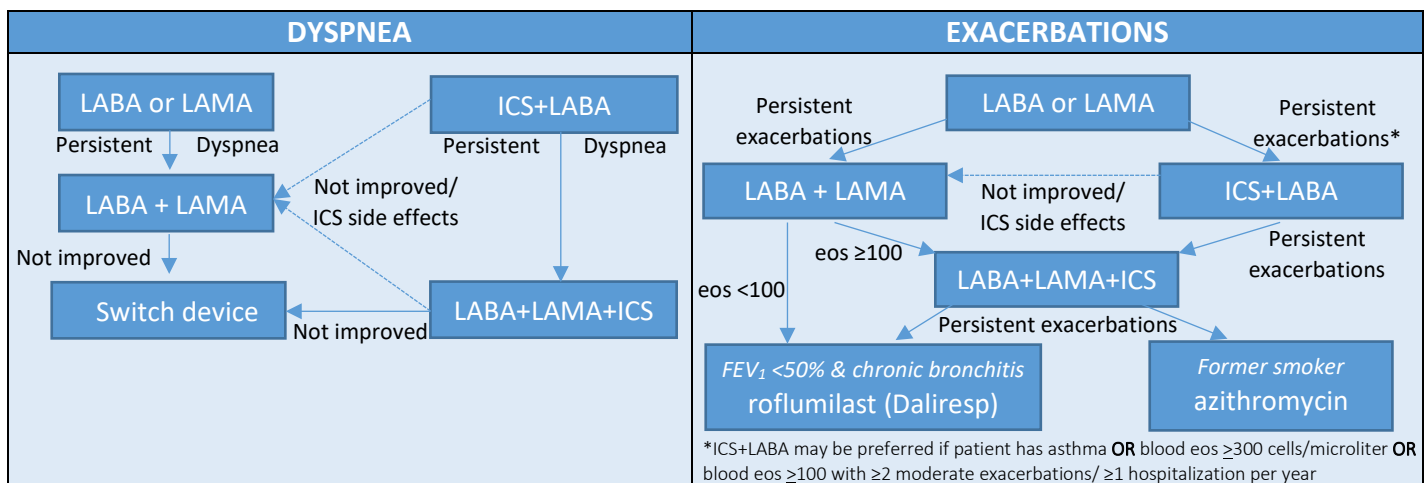
Adapted from 2020 GOLD Guidelines

Optimizing Pharmacologic Therapy

Treatment goals are to **reduce symptoms and reduce risk**: relieve symptoms, improve exercise tolerance, improve health status, prevent disease progression, prevent and treat exacerbations, reduce mortality.

Review symptoms (dyspnea) and exacerbations, **assess adherence and inhaler technique** and nonpharmacological approaches (e.g. pulmonary rehab, self-management) prior to making pharmacological therapy adjustments.

1. If patient is responding to medication therapy → Maintain without change
2. If patient is not responding to medication therapy → **Modify based on dyspnea or exacerbation predominance**
3. If therapy escalation results in lack of efficacy or side effects → Consider de-escalation
4. If resolution of (some) symptoms → Consider de-escalation



- **Initiate dual bronchodilator (LAMA+LABA) therapy** if persistent breathlessness/exercise limitation on LAMA/LABA monotherapy → change device or step down if no improvement with dual therapy
- **Add LAMA to ICS+LABA** if persistent breathlessness/exercise limitation → change device or step down if no improvement with dual therapy
- **Switch to LABA+LAMA from ICS+LABA** if ICS not indicated/lack of response/ICS side effects

- **Escalate to LABA+LAMA or LABA+ICS** if persistent exacerbations on LAMA/LABA monotherapy.
- **Switch to LABA+LAMA from ICS+LABA** if lack of response/ICS side effects
- **Escalate to LABA+LAMA+ICS** if continued exacerbations on LABA+ICS
- **Escalate to LABA+LAMA+ICS** if continued exacerbations on LABA+LAMA and blood eos ≥ 100
- **Add roflumilast or azithromycin** (former smoker) if continued exacerbations on LABA+LAMA and blood eos < 100
- **Add roflumilast** if FEV₁ 50% predicted & chronic bronchitis and ≥ 1 hospitalization in last year on LABA+LAMA+ICS
- **Add azithromycin** (former smoker) if continued exacerbations on LABA+LAMA+ICS
- **Stop ICS** if lack of response/ICS side effects

Pharmacy Pearls

Common Inhalers for COPD management

Select Inhaled Medications

(agents generally well covered by insurance)

Generic Name	Brand Name	Generic Available?	Inhaler Type	Typical Dosing
Beta₂-Agonists (Bronchodilators)				
Short-acting (SABA)				
Levalbuterol	Xopenex HFA®	Yes	MDI	1-2 puffs Q4-6h PRN
Albuterol	Proair® HFA, Proair RespiClick®, Proventil® HFA, Ventolin® HFA	Yes	MDI, DPI	1-2 puffs Q4-6h PRN
Long-acting (LABA)				
Salmeterol xinafoate	Serevent®	No	DPI	1 inhalation BID
Arformoterol	Brovana®	No	Neb	Inhale contents of 1 neb BID
Anticholinergics (Bronchodilators)				
Short-acting (SAMA)				
Ipratropium	Atrovent® HFA	No	MDI	2 inhalations four times daily
Long-acting (LAMA)				
Tiotropium	Spiriva® HandiHaler® Spiriva® Respimat®	No	DPI Slow-moving mist	Inhale contents of 1 capsule BID 2 inhalations daily
Umeclidinium	Incruse® Ellipta®	No	DPI	1 inhalation daily
Combination Products				
SABA+SAMA				
Ipratropium/albuterol	Combivent® Respimat®	Yes (nebs only)	Slow-moving mist	1 inhalation four times daily
LAMA+LABA				
Umeclidinium/vilanterol	Anoro® Ellipta®	No	DPI	1 inhalation daily
ICS+LABA				
Budesonide/formoterol	Symbicort®	Yes	MDI	2 inhalations BID
Fluticasone/salmeterol	Advair®, AirDuo®, Wixela™ Inhub™	Yes	DPI	1 inhalation BID
Fluticasone/vilanterol	Breo™ Ellipta™	No	DPI	1 inhalation daily
ICS+LAMA+LABA				
Fluticasone/umeclidinium/vilanterol	Trelegy™ Ellipta®	No	DPI	1 inhalation daily