

FDA-APPROVED THERAPEUTIC DRUGS FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE TREATMENT*

- **Risk Factors** for COPD includes: genetic factors, exposure to particles (tobacco smoke, occupational dusts, outdoor air pollution), oxidative stress, respiratory infections, nutrition, comorbidities.
- **Classification**
 - Stage 1: Mild – FEV₁/FVC<0.70; FEV₁≥80% predicted.
 - Stage 2: Moderate – FEV₁/FVC<0.70; 50%≤FEV₁<80% predicted.
 - Stage 3: Severe – FEV₁/FVC<0.70; 30%≤FEV₁<50% predicted.
 - Stage 4: Very Severe – FEV₁/FVC<0.70; FEV₁<30% predicted or FEV₁<50% predicted + CRF.
- **Step-wise treatment** – Visit the Global Initiative for Chronic Obstructive Lung Disease (GOLD) website at www.goldcopd.org for information about use of medications at various stages of COPD.

Brand	Generic	Formulation	Usual Dosage
BRONCHODILATORS			
β₂-AGONISTS			
LONG-ACTING			
Arcapta Neohaler**†	indacaterol	caps	Adults: 1 inh of one 75mcg caps once daily, using Neohaler device. Do not swallow caps. Children: Not recommended.
Brovana**	arformoterol	solution	Adults: Inhale 15mcg twice daily (AM & PM) by nebulization (max: 30mcg/day). Use standard jet nebulizer with air compressor (see literature). Children: Not recommended.
Foradil Aerolizer	formoterol	DPI	Adults: 1 inh (12mcg) every 12hrs using Aerolizer inhaler (max: 24mcg/day) Children: Not recommended.
Perforomist**†	formoterol	solution	Adults: One 20mcg vial twice daily (AM & PM) by oral inhalation via nebulizer (max: 40mcg/day). Children: Not recommended.
Serevent Diskus†	salmeterol	DPI	Adults: 1 inh (50mcg) twice daily (AM & PM) every 12hrs. Children: Not recommended.
ANTICHOLINERGICS			
SHORT-ACTING			
Atrovent HFA	ipratropium bromide**	MDI	Adults: 2 inh 4 times daily (max: 12 inh/day). Children: Not recommended.
Ipratropium Bromide Inh Solution		solution	Adults: 500mcg by oral nebulization 3–4 times daily every 6–8hrs. Children: Not recommended.
LONG-ACTING			
Spiriva HandiHaler**	tiotropium bromide	caps	Adults: 2 oral inhalations of one 18mcg caps once daily, using HandiHaler device. Do not swallow caps. Children: Not recommended.
COMBINATION THERAPY			
Combivent**	albuterol + ipratropium	MDI	Adults: 2 inh four times daily (max: 12 inh/day). Children: Not recommended.
Combivent Respimat**		MDI	Adults: 1 inh 4 times daily (max: 6 inh/day). Children: Not recommended.
Duoneb**		solution	≥18yrs: 1 vial (3mL) 4–6 times daily via nebulizer. <18yrs: Not recommended.
CORTICOSTEROIDS			
COMBINATION THERAPY			
Advair 250/50 Diskus††	salmeterol + fluticasone	DPI	Adults: 1 inh of 250/50mcg twice daily. Children: Not recommended.
Symbicort 160/4.5†	formoterol + budesonide	MDI	Adults: 2 inh of 160/4.5mcg twice daily. Children: Not recommended.
OTHER			
PDE4-INHIBITOR			
Daliresp**†	roflumilast	tabs	Adults: One 500mcg tab once daily. Children: Not recommended.
NOTES			
caps = capsules; COPD = chronic obstructive pulmonary disease; CRF = chronic respiratory failure; DPI = dry powder inhaler; FEV ₁ = forced expiratory volume in one second; FVC = forced vital capacity; hr = hour; inh = inhalation; mcg = microgram; MDI = metered dose inhaler; tabs = tablets.			
*Not an inclusive list. Visit the website for the Global Initiative for Chronic Obstructive Lung Disease (GOLD) at www.goldcopd.org for information about use of medications at various stages of COPD.			
**Indicated only for COPD.			
†Not indicated for the relief of acute bronchospasm.			
†Only Advair 250/50 Diskus twice daily is approved for maintenance treatment of COPD because an efficacy advantage of the higher strength Advair 500/50 over Advair 250/50 has not been demonstrated. Other strengths and formulations of Advair are available.			