COPD - Pharmacotherapy Overview

Although COPD is a chronic, largely irreversible disorder, pharmacotherapy may improve the quality of life in some patients. The chart below outlines the pharmacological management of COPD according to the most recent guidelines.[i]

Increasing Severity of Symptoms ↓

Severity of Symptoms	Drug Class	Medication	Usual Daily Dosage Range*	Comments
Intermittent	**SABA**	(see below)	PRN	
Regular symptomatic	**Anti-cholinergics**	Ipratropium 20ug / inhalation ***Atrovent***	2-4 puffs TID-QID	◆considered 1st line as better broncho-dilation, ↓ side effects vs SABAs
	SABA	Fenoterol 100ug ***Berotec***	2-4 puffs TID-QID prn	◆hypokalemia may result with high doses
		Salbutamol 100ug ***Ventolin***		
		Terbutaline 0.5mg ***Bricanyl***	2-4 puffs TID prn	
	Combination Therapy	Ipratropium 20ug + Salbutamol 100ug ***Combivent***	2-4 puffs TID-QID	◆some studies show additive effects; others show no benefit over optimal doses of single agent
Moderate Using lots of SAB2 or nocturnal/ early morning symptoms	**LABA**	Formoterol 6-12ug Turbuhaler ***Oxeze***	1 dose BID	
		Formoterol 12ug DPI ***Foradil***	12ug cap inhal BID	
		Salmeterol MDI ***Serevent***	ii puffs BID	
		Salmeterol Diskus ***Serevent***	1 inhal BID	
	Theophylline	various SR products ◆may improve dyspnea, exertional endurance, and quality of life for some pts ◆useful for ↓ nocturnal decline in pulmonary function and associated morning symptoms	400-800mg /day	◆Aim for **low** therapeutic level (**55-85umol/L**) ◆many DIs
Patient symptomatic &/or limited in daily activities despite above.	**Oral corticosteroid trial**	Prednisone	30-50mg/day X2 weeks (for trial or tx of acute exaccerbation) Chronic tx dose ideally <10mg EOD	◆majority of pts do not benefit (only 10-20% of stable pts will respond**) ◆for long-term tx, use inhaled steroids to ↓adverse effects
If steroid responder**,	**Inhaled Cortico-steroids** -------- **Combination**	Budesonide ***Pulmicort***	200-400ug BID	◆some current controversy over the benefit of corticosteroids in COPD[#]
		Fluticasone MDI ***Flovent***	125-500ug BID	
		Fluticasone Diskus ***Flovent***	100-500ug BID	
		Fluticasone (100,250,500ug) ***Advair*** + Salmeterol (50ug) Diskus	1 inhal BID	
Immunization for influenza and pneumococcus should be considered for all elderly & chronically ill patients		**Influenza Vaccine**	IM annually in fall	◆contraindicated if allergy to eggs or thimerosal
		Pneumococcal Vaccine	IM once in a lifetime; revaccination (5+ ys) may be indicated in some cases.[ii]	◆contraindicated in allergy, children <2yrs, & pregnancy/lactation

DI = drug interactions; **SABA**=short acting beta 2 agonists; **LABA**=long acting beta 2 agonists; **MDI**=metered dose inhaler; **DPI** = dry powder inhaler
*max dose limited by side effects; doses may exceed maximums recommended in CPS.
** steroid responder = if improvement in post bronchodilator FEV1 value > 20% and at least 200ml increase is observed following prednisone trial; all attempts should be made to use inhaled steroids vs. oral for chronic therapy to ↓ systemic side effects
# ISOLDE study found fluticasone 1000ug/d beneficial over 6 months (↓ rate of decline in mod-severe COPD)[iii]

[i] Guidelines for the Treatment of Chronic Obstructive Pulmonary Disease (COPD). The Canadian Respiratory Review Panel, Nov, 1998.
[ii] Centers for Disease Control (CDC) Guidelines
[iii] Burge PS. EUROSCOP, ISOLDE and the Copenhage City Lung Study. Thorax 1999;54:287-288.