



Usual doses of single agent long-acting muscarinic antagonists (anticholinergic) for COPD

Agent	Brand name	Dosing
Aclidinium	Tudorza Pressair (United States)	DPI:* 1 inhalation (400 mcg/actuation) twice daily
	Tudorza Genuair (Canada)	
Glycopyrrolate (known as glycopyrronium in Canada and Europe) [¶]	Seebri Neohaler (United States)	DPI:* Inhale contents of 1 capsule (15.6 mcg/capsule ^Δ) twice daily
	Seebri Breezhaler (Canada)	DPI:* Inhale contents of 1 capsule (50 mcg/capsule ^Δ) once daily
	Lonhala Magnair (United States)	Solution for nebulization: Inhale contents of 1 vial (25 mcg/1 mL) twice daily via specialized Magnair device
Tiotropium [¶]	Spiriva HandiHaler (United States), Spiriva (Canada)	DPI:* Inhale contents of 1 capsule (18 mcg/capsule) once daily
	Spiriva Respimat (United States, Canada)	SMI: [◇] 2 inhalations (2.5 mcg/actuation) once daily
Umeclidinium	Incruse Ellipta (United States, Canada)	DPI:* 1 inhalation (62.5 mcg/actuation) once daily
Revefenacin [§]	Yupelri (United States)	Solution for nebulization: Inhale contents of 1 vial (175 mcg/3 mL) once daily via standard jet nebulizer [¥]

COPD: chronic obstructive pulmonary disease; DPI: dry powder inhaler; SMI: soft mist inhaler.

* DPIs contain lactose and may contain milk protein, which may put patients with milk protein allergy at risk.

¶ Use in patients with moderate to severe renal dysfunction should be based on consideration of expected benefits compared with potential risk of reduced clearance; patients should be monitored for anticholinergic adverse effects.

Δ Glycopyrrolate (United States name) is called glycopyrronium in other countries. The dose of glycopyrrolate (glycopyrronium) is expressed variably, depending upon the country. In the United States, the glycopyrrolate (glycopyrronium) dose is expressed as the amount of bromide salt delivered from the mouthpiece. In Canada, the dose is expressed as the amount of glycopyrronium base per capsule.

◇ Tiotropium SMI is available as multiple strengths (ie, 1.25 mcg/actuation and 2.5 mcg/actuation). For COPD, the 2.5 mcg/actuation preparation should be used.

§ Revefenacin use is not recommended in patients with hepatic impairment.

¥ Do not dilute or mix with other medications.

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