Optimizing Biologic Therapy & Eosinophil Assessment

Within the GOLD 2026 Management Model

GOLD Treatment Algorithms Quick Reference



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Initial Therapy Selection: Applying GOLD Group-Based Treatment

Initial Treatment
For patients with COPD who are naïve to maintenance pharmacologic treatment

≥1 moderate or severe exacerbations in previous year	GROUP E LABA + LAMA* Consider LABA + LAMA + ICS* *if two moderate or one severe exacerbation AND blood eos ≥300cells/μL*	
0 moderate or severe exacerbations in previous year	GROUP A A bronchodilator mMRC 0-1 CAT <10	GROUP B LABA + LAMA* mMRC ≥2 CAT ≥10

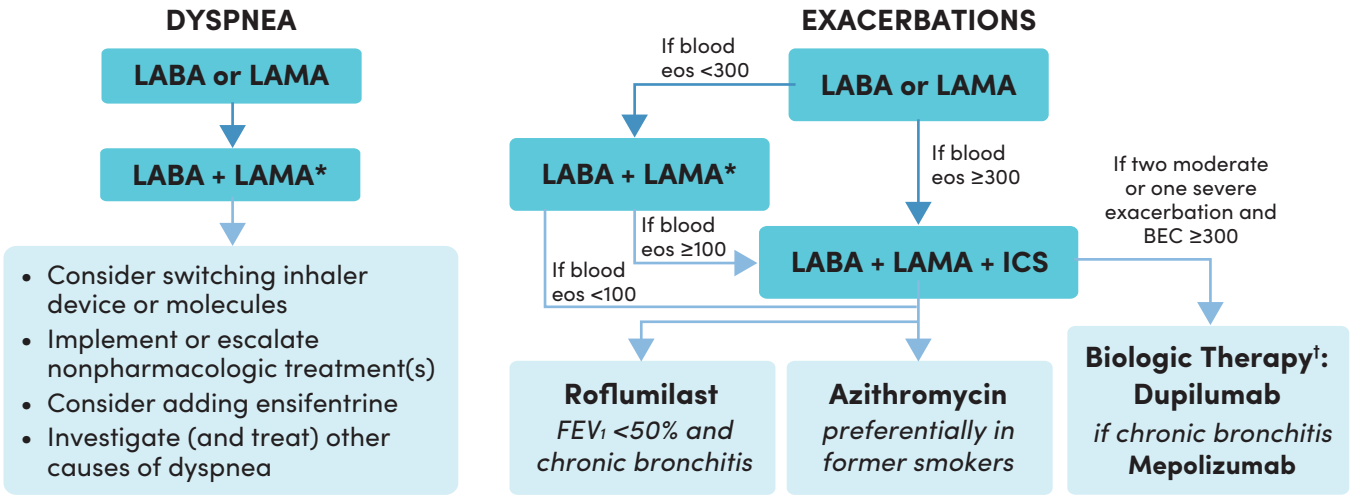
*Single inhaler therapy may be more convenient and effective than multiple inhalers.
Note: Exacerbations refers to the number of exacerbations per year.
LABA, long-acting beta2 agonist; LAMA, long-acting muscarinic antagonist.

GOLD. 2026 report. https://goldcopd.org/2026-gold-report/

Escalation of Therapy: Applying GOLD Follow-Up Treatment in Practice

Follow-up treatment
For patients who are already receiving maintenance pharmacological treatment

Continue current treatment unless dyspnea or exacerbation management require optimization.



*Single inhaler therapy may be more convenient and effective than multiple inhalers; single inhalers improve adherence to treatment;
†Listed in order of approval in the US.
Consider de-escalation of ICS if pneumonia or other considerable side effects. In case of blood eos ≥300 cells/μL, de-escalation is more likely to be associated with the development of exacerbations. Exacerbations refers to the number of exacerbations per year.
eos, eosinophils; FEV_1, forced expiratory volume in 1 second.

GOLD. 2026 report. https://goldcopd.org/2026-gold-report/

For more detail, see the GOLD Pocket Guide on treatment selection.

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Within the GOLD 2026 Management Model

Approved Biologics for COPD Quick Reference



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Pathway to Biologic Therapy



Biologics Approved for COPD

	Key RCTs	Trial Patient Enrollment Criteria*	Indication	Dosing	GOLD Recommendations
Dupilumab (Anti-IL-4Rα)	BOREAS NOTUS	FEV_1 post-bronchodilator 30%–70% Chronic bronchitis Blood eos ≥300 cells/µL (screen)	Add-on maintenance treatment of patients with inadequately controlled COPD and an eosinophilic phenotype	300 mg SC Q2W	Use in patients with eos ≥300 cells/µL + chronic bronchitis, despite triple therapy Clinical trial evidence of reduced exacerbations and improved lung function
Mepolizumab† (Anti-IL-5)	METREX METREO	FEV_1 post-bronchodilator 20%–80% Blood eos ≥150 cells/µL (screen) or Blood eos ≥300 cells/µL (previous year)	Add-on maintenance treatment of patients with inadequately controlled COPD and an eosinophilic phenotype	100 mg SC Q4W	Consider for eosinophilic COPD with persistent exacerbations Clinical trial evidence of efficacy in patients with higher eosinophils
	MATINEE	FEV_1 post-bronchodilator 20%–80% Blood eos ≥300 cells/µL (screen) and Blood eos ≥150 cells/µL (previous year)			

*All trials recruited patients with exacerbations in previous year while on triple therapy;
†METREX also included a noneosinophilic group with <150 cells/µL at screening and no prior count ≥300 cells/µL; METREO only included eosinophilic patients.
IL, interleukin; QXW, every X weeks; Rα, receptor alpha; RCT, randomized controlled trial; SC, subcutaneous.

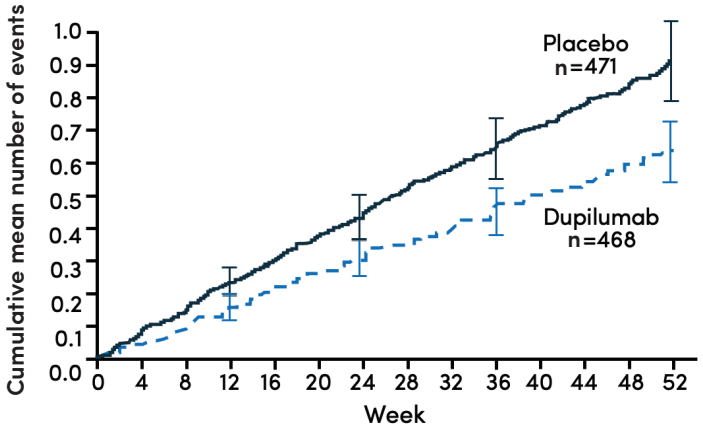
GOLD. 2026 report. https://goldcopd.org/2026-gold-report/

Dupilumab for the Treatment of COPD

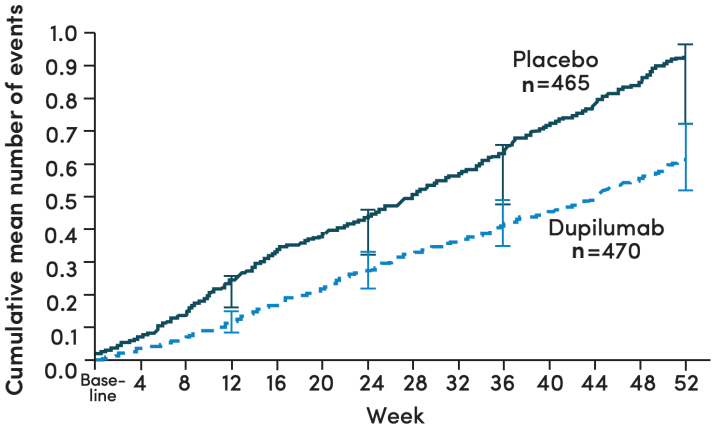
Population summary: Moderate-to-severe COPD, ≥40 years old, history of ≥1 exacerbation, and T2 inflammation (BEC ≥300/µL). 1874 total patients randomized.

Cumulative Mean Number of Moderate or Severe Exacerbations

BOREAS[1]



NOTUS[2]

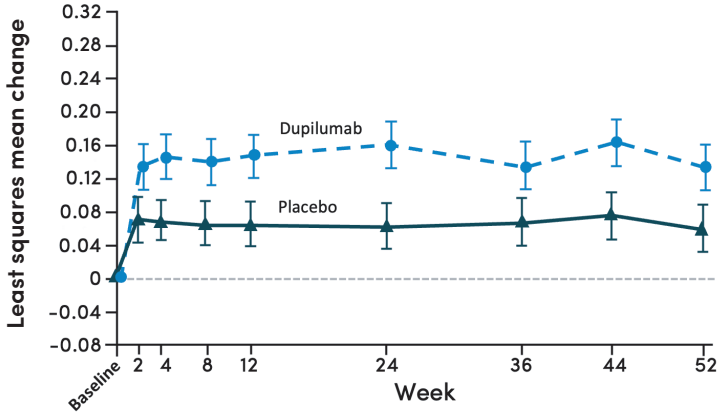


In BOREAS and NOTUS, both phase 3, randomized, double-blind, placebo-controlled trials, dupilumab therapy resulted clinically and statistically significant reductions in moderate or severe exacerbations, improved lung function, and improved patient-reported outcomes.

Pooled Outcomes Analysis

Dupilumab reduced annualized rate of moderate or severe exacerbations compared with placebo: 0.794 with dupilumab vs 1.156 with placebo (RR 0.687, 95% CI 0.595–0.793; *P* <.0001).

Improvement in Prebronchodilator FEV_1



Improvement in Symptoms and QOL

Change from baseline to week 52 in:	Difference vs Placebo (95% CI)	P value
St George's Respiratory Questionnaire total score	-3.366 (-4.953 to -1.778)	<.0001
Evaluating Respiratory Symptoms in COPD total score	-0.914 (-1.438 to -0.389)	.0006

At week 12, change in FEV_1 was increased with dupilumab compared to placebo (LSMD 0.083 L, 95% CI 0.053–0.112; *P* <.0001) and was maintained at week 52 (0.073 L, 0.040–0.107: *P* <.0001).

CI, confidence interval; LSMD, least squares mean difference; QOL, quality of life; RR, rate ratio.

1. Bhatt SP, et al. *N Engl J Med*. 2023;389:205-214; 2. Bhatt SP, et al. *N Engl J Med*. 2024;390:2274-2283.

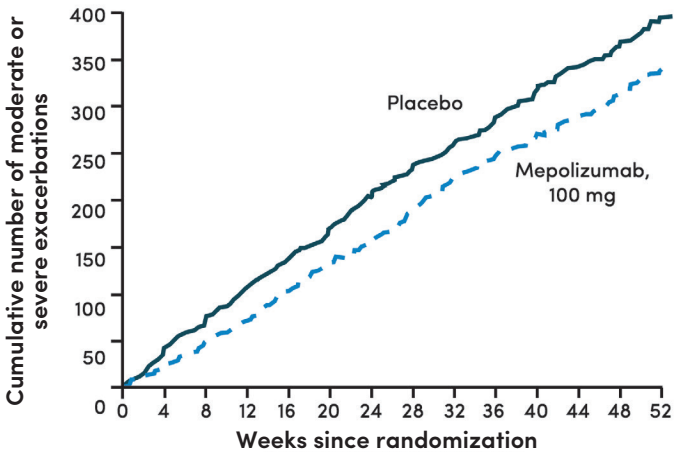
Mepolizumab for the Treatment of COPD

Studied in three separate phase 3 trials in patients with COPD: METREX, METREO, and MATINEE.

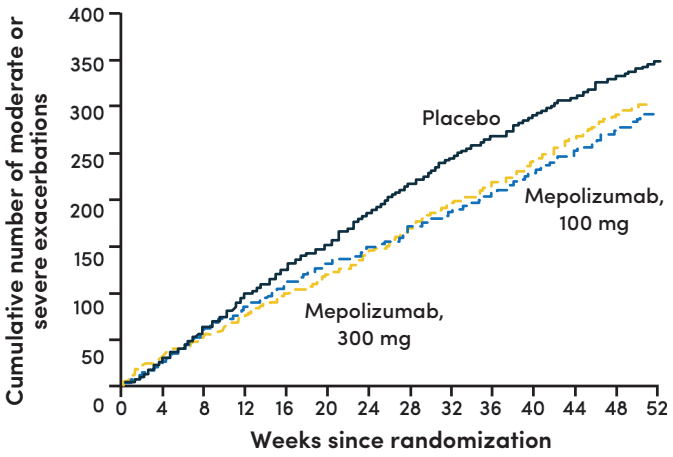
METREX AND METREO[1]

Population summary: Moderate-to-severe COPD, ≥40 years old, BEC ≥150 cells/µL at screening or ≥300 cells/µL during previous year. METREX also included a noneosinophilic group.

METREX: Modified ITT Population With an Eosinophilic Phenotype



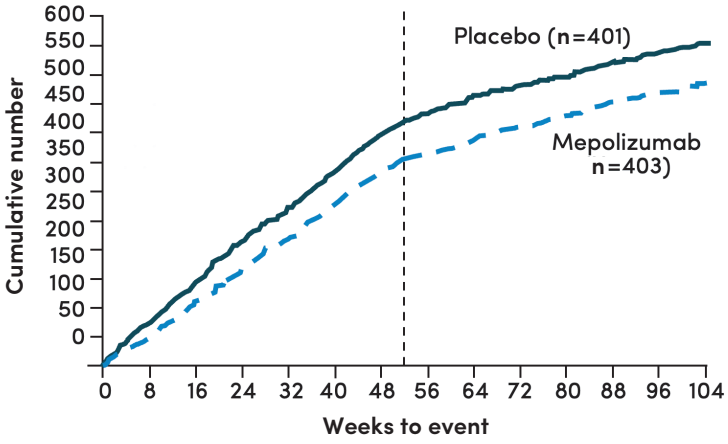
METREO: Modified ITT Population



No significant differences were found in the overall modified ITT populations in METREX or METREO.

MATINEE[2]

Population summary: Moderate-to-severe COPD, frequent exacerbations despite triple therapy, and BEC ≥300 cells/µL at screening and ≥150 cells/µL in the past year.



Annualized rate of moderate or severe exacerbations with mepolizumab vs placebo: 0.80 vs 1.01 events per year (RR 0.79; 95% CI 0.66 to 0.94; *P*=.01)

In MATINEE: Between-group differences in measures of health-related quality of life and symptoms were not significant. No statistical inferences regarding subsequent secondary endpoints in the statistical testing hierarchy were made.

ITT, intent to treat.

1. Pavord ID, et al. *N Engl J Med.* 2017;377:1613-1629; 2. Sciurba FC, et al. *N Engl J Med.* 2025;392:1710-1720.