Optimizing Biologic Therapy & Eosinophil Assessment

Within the GOLD 2026 Management Model

Blood Eosinophils and Their Use in COPD

COPD Monitoring Checklist



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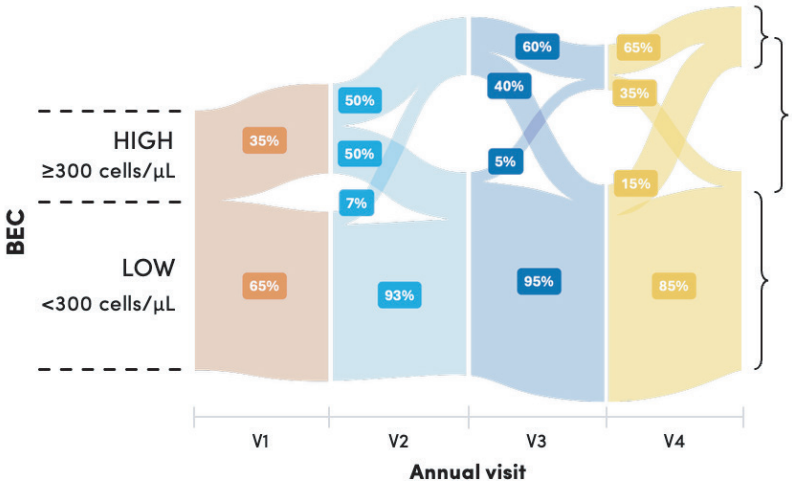
Blood Eosinophils in COPD

Blood eosinophils are an actionable biomarker of type 2 inflammation in COPD and are both prognostic of exacerbation risk and predictive of treatment response.

Most patients' eosinophil levels fluctuate; a single BEC measurement may fail to detect type 2 inflammation.

Fluctuation of Type 2 Inflammation Status Across Four Annual Visits in 100 Patients With COPD[1]



End of analysis eosinophilic status	BEC ≥300 cells/µL at:	≥1 eosinophilic exacerbation (%)
18% persistent	≥3 annual visits	**89%**
29% intermittent	1–2 annual visits	**51%**
53% never	At none of the annual visits	**26%**

BED may vary over time due to intrinsic and extrinsic factors, such as smoking, SCS, comorbidities, allergic sensitivities, obesity and time of day[2]

BEC, blood eosinophil count; COPD, chronic obstructive pulmonary disease; SCS, systemic corticosteroid(s); V, visit.
1. Baraldi F, et al. *Am J Respir Crit Care Med*. 2025;211:870–872; 2. Chipps BE, et al. *Ann Am Thorac Soc*. 2021;18;1978–1987.

Using Blood Eosinophils to Guide Treatment Decisions (GOLD 2026)

	At Diagnosis/ Initial Evaluation	Guiding Initial Pharmacologic Therapy	Follow-up and Pharmacotherapy	
Purpose	Establish inflammatory endotype and inform future treatment decisions	Influence selection of initial pharmacotherapy in Group E	Used when adjusting therapy for persistent exacerbations	
Interpretation	• <100: Low likelihood of benefit from ICS • 100–300: Possible benefit • ≥300: Strong likelihood of benefit	• ≥300: Consider initial triple therapy (LABA/LAMA/ICS)	**From LABA/LAMA:** • ≥100: Escalate to triple therapy • <100: Consider non-ICS options	**From Triple :** • ≥300: Escalate to biologic • <300: Consider roflumilast, azithromycin depending on endotype

ICS, inhaled corticosteroids; LABA, long-acting beta2 agonist; LAMA, long-acting muscarinic antagonist.
GOLD. 2026 report. https://goldcopd.org/2026-gold-report/

Tips for When and How to Measure Eosinophils in COPD

Eosinophils should be assessed at baseline, to guide treatment decisions, and over time:

When to Measure

- Baseline or stable state
- Before ICS or biologics

When to Repeat

- No routine repeat testing
- Consider if:
  - Prior value unavailable
  - Clinical context unclear
- Avoid if:
  - Acute exacerbation
  - Recent systemic CS

How to Interpret

- Use with exacerbation history and clinical context
- One elevated value may guide decisions
- Variability is expected
- Focus: ever vs never elevated

How to Document

- Record historical values
- Emphasize pattern, not single values

COPD Monitoring Checklist

Every Visit

- [ ] Symptoms (CAT or mMRC)
- [ ] Exacerbations
- [ ] Airflow obstruction
- [ ] Adherence & inhaler technique
- [ ] Current treatment
- [ ] Side effects
- [ ] Smoking status/cessation
- [ ] Comorbidities

Annually

- [ ] **Every Visit Checklist plus**
- [ ] Vaccinations (flu, RSV, pneumococcal, COVID-19)
- [ ] Physical exam
- [ ] Nutrition/weight review
- [ ] Pulmonary rehab evaluation
- [ ] Need for oxygen, NIV, lung volume reduction, palliative approaches
- [ ] Update COPD action plan

CAT, COPD Assessment Test; FEV_1, forced expiratory volume in 1 second; mMRC, modified Medical Research Council; NIV, noninvasive ventilation; RSV, respiratory syncytial virus.

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