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# (copd OR "Pulmonary Disease, Chronic Obstructive"[Mesh])

**1**

**Comparative Study**

**BMJ Open Respir Res**

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**. 2025 Dec 18;12(1):e003216.**

**doi: 10.1136/bmjresp-2025-003216.**

## Initial treatment of COPD with LABA-ICS or LABA-LAMA: real-world comparative effectiveness

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Affiliations Expand

- PMID: 41419233

- DOI: 10.1136/bmjresp-2025-003216

**Abstract**

**Background: The 2023 Global initiative for chronic Obstructive Lung Disease (GOLD) recommendations advocate long-acting beta$_2$ agonist (LABA) and long-acting muscarinic antagonist (LAMA) combinations (LABA-LAMA) for the initial pharmacological treatment of patients with chronic obstructive pulmonary disease (COPD) with multiple exacerbations. However, this choice, rather than combinations**

of LABA and inhaled corticosteroids (LABA-ICS), no longer recommended in GOLD, was based on randomised trials that excluded patients with multiple prior exacerbations.

Research question: What is the comparative effectiveness of initiating COPD treatment with LABA-ICS versus LABA-LAMA inhalers, particularly in patients with multiple COPD exacerbations, in a real-world clinical practice setting?

Study design and methods: We identified a cohort of patients with COPD, 40 years of age or older, from the United Kingdom's Clinical Practice Research Datalink. Treatment-naïve initiators of single-inhaler LABA-ICS or LABA-LAMA, with no prior asthma, LABA, LAMA or ICS use, were compared on the incidence of moderate or severe COPD exacerbation over 1 year, after adjustment by propensity score weighting.

Results: The study cohort included 20 750 initiators of LABA-ICS inhalers and 16 594 of LABA-LAMA. The overall adjusted HR of a first moderate or severe exacerbation with LABA-ICS relative to LABA-LAMA was 1.03 (95% CI 0.98 to 1.08). Among patients with two or more prior exacerbations, the HR of exacerbation with LABA-ICS versus LABA-LAMA was 0.89 (95% CI 0.81 to 0.97), while it was 1.07 (95% CI 1.00 to 1.15) among patients with no prior exacerbations. The HR was 0.92 (95% CI 0.86 to 0.99) among those with forced expiratory volume in 1 s ($FEV_1$)≥50% predicted.

Interpretation: In a real-world clinical practice setting of COPD treatment, initiating therapy with LABA-ICS inhalers may be more effective than LABA-LAMA inhalers among patients with multiple exacerbations, particularly those with $FEV_1$≥50% predicted, but less effective among those with no prior exacerbations and $FEV_1$<50% predicted. This study supports a targeted approach to initial therapy for COPD. .

Keywords: COPD Exacerbations; COPD epidemiology.



Conflict of interest statement

Competing interests: S Suissa attended scientific advisory meetings for Boehringer-Ingelheim, Novartis, and Panalgo, and received speaking fees from Boehringer-Ingelheim, Covis Pharma and CSL Behring, all in the last three years. SD'A and PE have no conflicts.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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Respir Med

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doi: 10.1016/j.rmed.2025.108597. Online ahead of print.

# TETRIS - Prospective study to observe clinical outcomes of triple therapy in COPD patients: up to 12 months interim analysis

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- PMID: 41418889

- DOI: 10.1016/j.rmed.2025.108597

## Abstract

**Background: Real-world cohorts provide a more universal understanding of the factors influencing treatment decision outcomes in patients with chronic obstructive pulmonary disease (COPD).**

**Methods: The objective of the TETRIS study is to elucidate influences on treatment decisions surrounding triple therapy (TT) in COPD patients over a 2-year follow-up period in a real-world setting in Germany. TETRIS included 1217 patients with COPD with/without asthma, already on TT for 2-48 weeks. Here, we report interim analyses of clinical endpoints at the 6-month and 1-year follow-up visits in subgroups of patients (n=840) stratified based on single versus multiple-inhaler TT (SITT versus MITT), once versus twice-daily TT (OD versus BID) and different SITTs the patients were currently on.**

**Results: Mean number of hospitalisations due to exacerbations was significantly lower among the subgroup on fluticasone furoate, umeclidinium, and vilanterol administered OD (FF/UMEC/VI OD) versus budesonide, glycopyrrolate, and formoterol fumarate administered BID (BUD/GLY/FOR BID) subgroup at 6 months and 1-year (both, p<0.0001) as well as among OD versus BID TT subgroups at 1-year (p=0.02). The change in mean COPD assessment test sum score was significantly greater in the SITT versus MITT and OD versus BID TT subgroups at 6 months (p=0.0018 and p=0.0202, respectively) and 1-year (p=0.0071 and p=0.0002, respectively), and in the FF/UMEC/VI OD versus BUD/GLY/FOR BID subgroup at 1-year (p=0.0004).**

**Conclusion: Overall, SITT dosed OD, specifically FF/UMEC/VI is associated with a significant reduction in hospitalisations due to exacerbations and improvement in symptoms at the 6-month and 1-year follow-up visits.**

**Registration: https://clinicaltrials.gov/study/NCT04657211.**

**Keywords: Chronic obstructive pulmonary disease; multiple-inhaler triple therapy; persistence with therapy; single-inhaler triple therapy; treatment adherence; triple therapy.**



**Conflict of interest statement**

**Declaration of Competing Interest ☒The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: MJ reports consulting fees from Novartis, GSK, BerlinChemie Menarini, Sanofi, AstraZeneca, Abbvie, ALK Slovakia; honoraria and speaker's fee from Takeda, ALK Slovakia, BerlinChemie Menarini, Abbvie, Sanofi, Novartis, Stallergenes-Greer, Chiesi, Pfizer; travel grants from Takeda, Novartis, ALK Slovakia, Abbvie; served as a member of Advisory boards for SOBI, Novartis, Takeda, AstraZeneca, Chiesi, Stallergenes-Greer and served as a president of Slovak Society of Allergy and Clinical Immunology and Repiratory Medicine – associated editor. AB reports consulting fees from Novartis, AsrtaZeneca, BerlinChemie Menarini, Abbvie, Stallergenes-Greer, ALK Slovakia; honoraria and speaker's fee from Takeda, ALK Slovakia, BerlinChemie Menarini, Chiesi, Novartis, Stallergenes-Greer; travel grants from Takeda, Novartis, ALK Slovakia and served as a board member of Slovak Society of Allergy and Clinical Immunology. KG reports grants from GSK, Sanofi, Stimag, ALK; honoraria and speaker's fee from GSK, Sanofi. IKK served as EAACI Immunology Section Secretary and EAACI Task Force on skin microbiome member. SFS reports grant from Hippo Dx and Galenus Health. ZR reports honoraria and speaker's fee from MSD, Schwabe, Pleuran, BerlinChemie Menarini, Danone/Nutricia, Ewopharma, Chiesi, Angelini Pharma; received travel grants from Sanofi, BerlinChemie Menarini, Novartis, ALK, Stallergenes-Greer; served as a member of Advisory board for ALK Slovakia PD received honoraria and speaker's fee from ALK Slovakia and served as a chief expert of Ministry of Health of Slovakia in paediatric pneumology and phthisiology, member of board of Slovak Paediatric Association and Slovak Society of Sleep Medicine. ET reports honoraria and speaker's fee from Intramedic. AM reports honoraria and speaker's fee from Takeda Pharmaceuticals Slovakia and Novartis Slovakia; travel grants from Takeda Pharmaceutica RK received consulting fees from ALK Slovakia, Stallergenes-Greer, Pfizer, Chiesi, S&D Pharma CZ; honoraria and speaker's fee from ALK Slovakia, Stallergenes-Greer, Pfizer, Chiesi, AstraZeneca, BerlinChemie Menarini, Sandoz, S&D Pharma CZ, Benela, Sanofi, Viatris and Medigroup; received travel grants from ALK Slovakia and Stallergenes Greer and served as a member of the board of Slovak Society of Allergy and Clinical Immunology. ZD reports consulting fees from Aclaris, Arcede, Arrowheadpharma, Biosion, Curovir, Foresse Pharmaceuticals, Galenus Health, Pleuran, QPS-Netherlands, TPG; received honoraria and speaker's fee from GSK, Sanofi Genzyme Regeneron; served as am EAACI Asthma section chair, EUFOREA expert panel chair and Repiratory Medicine – associated editor.**

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J Breath Res

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doi: 10.1088/1752-7163/ae2f95. Online ahead of print.

# The role of metabolomics in chronic obstructive pulmonary disease: from analytic techniques to clinical applications

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- DOI: 10.1088/1752-7163/ae2f95

Abstract

Chronic Obstructive Pulmonary Disease (COPD) is a complex, progressive inflammatory disorder characterized by airflow limitation and respiratory symptoms. Its heterogeneity is manifested at etiological, pathological and clinical levels, and leads to different phenotypes: chronic bronchitis, emphysema, asthma-COPD overlap, frequent exacerbator and eosinophilic phenotypes. COPD is also associated with systemic manifestations including cardiovascular diseases, muscle dysfunction, osteoporosis and mental-health issues, which require a comprehensive management approach. Key risk factors are tobacco smoke and air pollution, both of which induce oxidative stress and airway remodeling. Although there is still no definitive cure for COPD, an early diagnosis and a multidisciplinary treatment are essential to prevent or slow the disease progression and reduce the mortality rate. Molecular biomarkers, particularly those identified through metabolomics, show promise for early detection, phenotyping and precision therapies. Challenges in biomarker discovery include specimen variability and stability. Overall, metabolomics provides valuable insights into COPD's molecular pathways, supporting improved diagnosis, prognosis and tailored treatments. In

this tutorial, we will explore metabolomics findings from different COPD matrices and their clinical implications for diagnosis, treatment and prognosis.

Keywords: Biomarkers; COPD; Disability; Metabolomics; Outcome; Respiratoty diseases.



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BMC Pulm Med

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. 2025 Dec 18.

doi: 10.1186/s12890-025-04063-4. Online ahead of print.

# Stability of blood eosinophils during acute exacerbations in patients with chronic obstructive pulmonary disease

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- PMID: 41413886

- DOI: 10.1186/s12890-025-04063-4

## Abstract

Background: Blood eosinophils are recommended by GOLD as a biomarker for inhaled corticosteroid (ICS) therapy in COPD, yet their stability during acute exacerbations of COPD (AECOPD) remains uncertain.

Methods: We retrospectively analyzed 3,311 hospitalized AECOPD patients (2018-2023). Blood eosinophil distribution, longitudinal trends, and within-patient variability were assessed. Linear mixed-effects models estimated overall trajectories of ln(1 + EOS) over standardized hospital days (SHD). Variability was quantified by coefficient of variation (CV%), within-patient SD (wSD), and median absolute change between consecutive tests. Robustness of thresholds (100 and 300 cells/μL) was examined by crossing and reclassification rates, with simulations of

20-30% overall decline. Near-threshold "decision bands" were derived from the empirical median change (≈ 50 cells/μL).

Results: Blood eosinophils showed a right-skewed distribution with a median of 100 cells/μL (IQR 20-200). Mixed-effects models indicated only a mild overall increase (+ 2.16% per + 1 SD in SHD). In patients with repeated tests (n = 1,548), within-patient variability was substantial (median CV% 76.6%; wSD 57 cells/μL; median |Δ| 50 cells/μL). Threshold crossing and first-last reclassification were frequent (≥ 100: 45.7% and 32.9%; ≥300: 22.7% and 16.0%), and declined only slightly in simulated steroid-reduction scenarios. Approximately 13% of patients fluctuated between < 100 and ≥ 300 cells/μL during one admission.

Conclusion: EOS should be interpreted dynamically, with retesting or trend assessment recommended to guide clinical decisions during acute exacerbations.

Keywords: Biomarkers; COPD; Distribution; Eosinophil; Exacerbation; Stability.



Conflict of interest statement

Declarations. Ethics approval and consent to participate: This study was approved by the Ethics Committee of the Second Affiliated Hospital of Fujian Medical University (Ethics approval number: 536, 2024). The study was conducted in accordance with the principles of the Declaration of Helsinki. Prior to completing the survey, participants were informed that participation was voluntary and that their data would remain anonymous. Participants provided informed consent for their participation in the survey and for the publication of the results. Informed consent was obtained from all subjects and/or their legal guardians. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 30 references

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Meta-Analysis

BMC Pulm Med

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. 2025 Dec 19;25(1):558.

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# Risk factors of ventilator-associated pneumonia in patients with acute exacerbation of chronic obstructive pulmonary disease: a meta-analysis and systematic review

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- PMID: 41413500

- DOI: 10.1186/s12890-025-04003-2

Free article

## Abstract

Background and objectives: This meta-analysis aimed to identify risk factors for ventilator-associated pneumonia (VAP) in patients with Acute exacerbations of Chronic obstructive pulmonary disease (AECOPD).

Methods: We systematically searched PubMed, Web of Science, CINAHL, Cochrane Library, Embase, CNKI, and other databases for studies investigating risk factors for VAP in patients experiencing AECOPD. The search encompassed records from database inception up to July 2, 2025. The quality of the studies was assessed using the Newcastle-Ottawa Scale. Meta-analysis was performed using Stata 18.0.

Results: A total of 16 articles were included, encompassing 3,664 subjects and 16 risk factors. Meta-analysis results showed that, Age (OR: 2.49, 95%CI : 1.49, 4.17; P < 0.001), Smoking history (OR: 2.70, 95%CI : 1.65, 4.44; P < 0.001), Acute physiology and chronic health evaluation composite score (APACHE Ⅱ) score (OR: 3.03, 95%CI : 1.98, 4.65; P < 0.001), Sequential organ failure assessment (SOFA) score (OR: 2.75, 95%CI : 1.90, 3.99; P < 0.001), Diabetes (OR: 2.11, 95%CI : 1.38, 3.24; P = 0.001), Underlying Diseases (OR: 3.42, 95%CI : 1.85, 6.32; P < 0.001), Duration of mechanical ventilation (OR: 4.53, 95%CI : 2.68, 7.65; P < 0.001), Tracheal intubation (OR: 4.21, 95%CI : 1.85, 9.57; P = 0.001), Indwelling gastric tube (OR: 3.31, 95%CI : 1.38, 7.95; P = 0.008), Total parenteral nutrition (OR: 1.86, 95%CI : 1.29, 2.70; P = 0.001), Combined antibiotics (OR: 2.79, 95%CI : 1.32, 5.93; P = 0.007), Tracheotomy (OR: 2.92, 95%CI : 2.04, 4.17; P < 0.001), History of mechanical ventilation within one year (OR: 2.92, 95%CI : 2.04, 4.17; P = 0.005), Use acid suppressants (OR: 2.10, 95%CI : 1.49, 2.97; P < 0.001) were associated with the development of VAP in AECOPD patients.

Conclusions: This study identified 14 risk factors associated with the risk of VAP in AECOPD patients. This finding is helpful for early identification of high-risk patients,

which is of great value for reducing mortality and improving the clinical prognosis of patients with mechanical ventilation.

Keywords: Acute exacerbations; Chronic obstructive pulmonary disease; Meta-analysis; Risk factors; Ventilator-associated pneumonia.



Conflict of interest statement

Declarations. Ethics approval and consent to participate: The present study is a meta-analysis and literature review, therefore ethics approval and consent to participate are not applicable. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 49 references

Supplementary info

Publication types, MeSH termsExpand

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Sci Rep

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# Associations of LDL and HDL cholesterol with lung function decline and risk of airflow obstruction in a community-based cohort

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Affiliations Expand

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- DOI: 10.1038/s41598-025-31387-2

Free article

## Abstract

Dyslipidemia may affect pulmonary function through systemic inflammation and metabolic pathways; however, longitudinal evidence remains limited. This study examined the associations of baseline low-density lipoprotein (LDL) and high-density lipoprotein (HDL) cholesterol levels with subsequent rates of lung function decline and the incidence of airflow obstruction in a community-based observational cohort, Korean Genome and Epidemiology Study (KoGES). We analyzed 7381 participants without baseline airflow obstruction. LDL cholesterol was categorized as ≤ 130 mg/dL ($LDL_{low}$), 130-160 mg/dL ($LDL_{medium}$), and > 160 mg/dL ($LDL_{high}$), while HDL cholesterol was classified as ≤ 50 mg/dL (HDLlow) and > 50 mg/dL ($HDL_{high}$). Annual changes in $FEV_1$ and FVC were estimated using linear mixed-effects models, and Cox proportional hazards models were applied to assess the risk of incident airflow obstruction. Compared with the $LDL_{low}$ group, participants in the $LDL_{high}$ group had a slower annual decline in $FEV_1$ (- 37.21 mL/year, 95% CI: -39.00 to - 35.43) versus (- 40.39 mL/year, 95% CI: -40.94 to - 39.84) and FVC (- 30.06 mL/year, 95% CI: -32.18 to - 27.94) versus (- 35.78 mL/year, 95% CI: -36.43 to - 35.13), respectively (both $p < 0.001$). Higher LDL levels were significantly associated with a lower risk of incident airflow obstruction (adjusted HR: 0.71, 95% CI: 0.54-0.92). In contrast, higher HDL levels were associated with a faster $FEV_1$ decline (- 41.34 mL/year, 95% CI: -42.44 to - 40.24) compared with $HDL_{low}$ (- 37.84 mL/year, 95% CI -38.46 to - 37.22, $p < 0.001$), but not with FVC decline or incident airflow obstruction. Higher baseline LDL cholesterol levels were associated with a slower decline in lung function and a lower risk of developing airflow obstruction, whereas higher HDL cholesterol levels were associated with an accelerated decline in $FEV_1$. These findings highlight complex, potentially bidirectional relationships between lipid metabolism and respiratory outcomes, warranting further mechanistic research. Importantly, these associations should not be interpreted as implying that high LDL is beneficial for general health.

Keywords: Airflow obstruction; COPD; Cholesterol; Lipid profile; Lung function.



## Conflict of interest statement

Declarations. Competing interests: The authors declare no competing interests. Ethic statement: Ethical approval was obtained from the Ethics Committee of Incheon St. Mary's hospital (IRB number: OC23ZISI0033). The requirement for informed consent was waived by the Ethics Committee of Incheon St. Mary's hospital due to the retrospective nature of this study. All analyses were performed using de-identified public data from the Korean Genome and Epidemiology Study (KoGES), and all methods were conducted in accordance with relevant guidelines and regulations, including the Declaration of Helsinki.

- 48 references

## Supplementary info

## Grants and fundingExpand

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BMJ Open Respir Res

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. 2025 Dec 18;12(1):e003547.

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# Practices of high-flow nasal therapy in acute and chronic respiratory failure: the Hi-Flow Survey

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Free article

## Abstract

**Background: High-flow nasal therapy (HFNT) is a widely used non-invasive respiratory support technique, but data on its clinical application remain limited. This study aimed to assess clinicians' self-reported practices, perceptions and barriers regarding HFNT use in acute and chronic respiratory failure.**

**Methods: A cross-sectional web-based survey was disseminated among members of the European Respiratory Society's respiratory intensive care, rehabilitation and chronic care, and allied respiratory professionals assemblies from September to November 2023. Descriptive analysis was performed, with results presented as frequencies and percentages.**

**Results: A total of 1176 clinicians from 104 countries participated, primarily pulmonologists (78.3%) and respiratory therapists (9.7%). HFNT was most commonly used for de novo acute respiratory failure (56.2%) and interstitial lung disease exacerbations (56.3%), with lower utilisation for chronic obstructive**

**pulmonary disease with hypercapnia (47.4%) and trauma/atelectasis (41.5%). Despite guideline recommendations, 67% of respondents initiated HFNT only after conventional oxygen therapy failure. HFNT was also frequently used for symptom relief in palliative care, despite limited supporting evidence. Respiratory distress was the primary clinical trigger for HFNT initiation, while the ROX (Respiratory Rate-Oxygenation) index was rarely used to guide escalation of care (32%). Barriers to HFNT adoption included equipment costs (23%), lack of funding (22%) and limited clinician knowledge (18%). HFNT use increased during the COVID-19 pandemic (84%), but long-term application for chronic respiratory failure remained rare (16%).**

**Conclusions: This survey highlights significant variability in HFNT practices and a disconnect between guidelines and real-world implementation. Addressing financial and educational barriers may improve adherence to evidence-based recommendations.**

**Keywords: COPD Exacerbations; Critical Care; Interstitial Fibrosis; Non invasive ventilation; Palliative Care; Surveys and Questionnaires.**



**Conflict of interest statement**

**Competing interests: Conflict of interest: CC reports speaking fees from Fisher & Paykel, Vitalaire, Philips, RESMED, Sanofi, GSK, Astra Zeneca, reports a Patent pending n°102023000013077 not discussed in the present work, reports participation in advisory boards of Vitalaire, Aerogen (occasional). ACa reports speaking fees from RESMED and participation in advisory boards of Vitalaire, Breas. CG reports speaking fees from Air Liquide, Vyare, Philips and Vivisol. Declares a patent in association with the University of Palermo - Italy (No.102019000020532 Italian Ministry of Economic Development). FF reports consulting fees from Sanofi, MSD; honoraria for lectures from AstraZeneca, Chiesi, GSK, Sanofi, Pfizer; support for meeting attendance from AstraZeneca. CK reports research grant from Fresenius; consulting fees from Bayer, Xenios; honoraria for lectures from Bayer, Xenios, Getinge. He is a member of the government commission on Modern and Needs-based Hospital Care, a member of the expert commission on 'Resilience and Health'; Speaker German ICU registry. MP reports research grants from Fisher & Paykel, ResMed and Asten Santé; consulting fees from Philips, ResMed, Asten Santé, GSK, Air Liquide Medical and Isis; honoraria for lectures from Philips, ResMed, SOS Oxygene, Chiesi, Löwenstein, Bastide Medical, Elivie, Asten Santé, Air Liquide Medical, Antadir, Jazz Pharmaceutical, Fisher & Paykel, Orkyn and Sanofi; support for meeting attendance from Asten Santé, Vitalaire and Sanofi; participation in advisory boards from ResMed, Philips and Asten Santé; stock from Kernel Biomedical; and receipt of equipment from Philips, ResMed and Fisher & Paykel. MD reports research grants from ResMed, Löwenstein, Vivisol and Fisher & Paykel, speaking fees from Vivisol, Breas, Astra Zeneca and Chiesi. She receives equipment from Fisher & Paykel, Vivisol, ResMed and Sencure. SN reports research grants from Fisher & Paykel and participation in advisory boards of Breas. All other authors have no competing interest to declare.**

**Supplementary info**

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Eur J Intern Med

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. 2025 Dec 16:106649.

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# Ultrasound-based evaluation of inspiratory muscle effort in patients with type 2 respiratory failure secondary to exacerbation of chronic obstructive pulmonary disease

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Affiliations Expand

- PMID: 41407586

- DOI: 10.1016/j.ejim.2025.106649

## Abstract

**Background: Exacerbations of chronic obstructive pulmonary disease (ECOPD) are a major cause of acute hypercapnic respiratory failure. Diaphragmatic dysfunction is common, often accompanied by compensatory recruitment of parasternal intercostal (IC) and sternocleidomastoid (SCM) muscles. While diaphragm ultrasound (US) is established, evidence on extra-diaphragmatic and accessory muscle activity in this context is limited.**

**Methods: We conducted a single-center prospective exploratory proof-of-concept study in the Respiratory Intermediate Care Unit of the University Hospital of Modena This study aimed to characterize inspiratory muscle performance by bedside US in patients with ECOPD undergoing high-flow nasal cannula (HFNC), to explore its relationship with inspiratory effort and gas exchange, and to assess its potential prognostic value for HFNC outcome. Consecutive ECOPD patients with $PaO_2/FiO_2$ <300 mmHg underwent a 2-hour high-flow nasal cannula (HFNC) trial. US at initiation (T0) and 2 h later (T1) measured thickening fraction (TF) of diaphragm (TFdi), IC (TFic), and SCM (TFscm). Inspiratory effort was assessed by nasal**

pressure swings (ΔPnose). Associations with gas exchange and HFNC outcome were analysed.

Results: Thirty patients were enrolled (median age 75.5 years, 73 % male); 9 (30 %) failed HFNC. At baseline, TFdi was 27 % [16-38], and accessory activation (TFic >0 % or TFscm >0 %) occurred in 63 % (n = 19). Failures had higher TFic (33 % vs 5 %; p = 0.01) and TFscm (27 % vs 0 %; p < 0.0001). TFdi correlated inversely with TFic (r=-0.55), TFscm (r=-0.54), ΔPnose (r=-0.62), and $PaCO_2$ (r=-0.39), and positively with $PaO_2/FiO_2$ (r = 0.54) (all p ≤ 0.002). TFic and TFscm correlated directly with ΔPnose (r = 0.70; r = 0.77) and $PaCO_2$, and inversely with oxygenation and pH. At T1, responders showed increased TFdi, while failures had reduced TFdi with a trend toward progressive IC and SCM recruitment.

Conclusions: In ECOPD, impaired diaphragmatic function is frequently offset by accessory muscle activation. US-based assessment of inspiratory muscles may provide early prognostic information and guide HFNC management.

Keywords: Acute respiratory failure; Diaphragm; High flow nasal cannula; Inspiratory muscles; Intercostal muscles; Sternocleidomastoid muscle; Ultrasound; acute exacerbation of COPD; inspiratory effort.



Conflict of interest statement

Declaration of competing interest RT, IC, AM, EC, RF and LT declares patent N. 102,021,000,007,478 “APPARATO PER IL RILEVAMENTO ED IL MONITORAGGIO DELLA PRESSIONE NASALE” released on March 28th 2023 by the Italian Ministry of Enterprises and Made in Italy. RT, IC, AM, EC, RF and LT are co-founders of IREC ltd (VAT 02,959,080,355), (Reggio Emilia, Italy). RT received travel support and fees from GSK, SEDA, Guidotti, United HealthCare Services. EC received support and fees AstraZeneca, Menarini, GSK, Boheringer Ingelhei, Chiesi Italia, Lusofarmaco. Other authors have no competing interests with any organization or entity with a financial interest in competition with the subject, matter or materials discussed in the manuscript.

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# Quantitative computed tomography and predictive modelling for COPD exacerbations

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- PMCID: PMC12709362
- DOI: 10.1183/16000617.0097-2025

## Abstract

In COPD, acute exacerbations (AECOPD) are major contributors to morbidity and mortality, emphasising the need for effective stratification of individuals at high risk. Quantitative computed tomography (qCT) refers to the extraction of numerical data from CT images to objectively characterise anatomical and functional features, and it has been increasingly investigated in COPD assessment. We systematically reviewed the literature to evaluate the use of qCT for the diagnosis and prognosis of AECOPD. Of 362 screened records, 18 studies were included in this review. No studies were identified that used qCT features to diagnose AECOPD in CT scans made at the point of exacerbation. 11 studies reported qCT features identified in CT scans performed in stable COPD that are associated with frequent AECOPD and seven studies developed and tested models integrating CT features for the prediction of AECOPD. Across these studies, greater emphysema extent, thicker bronchial walls and increased air trapping were associated with higher exacerbation risk. However, current evidence is limited by heterogeneity in study design and lack of prospective validation. This review highlights the potential of quantitative CT analysis, which may be further enhanced by the integration of automated software, to support the development of imaging biomarkers for AECOPD. Future research is needed to refine qCT features for diagnosing AECOPD and establish CT-based tools that can predict AECOPD.



## Conflict of interest statement

Conflict of interest: All authors have nothing to disclose.

- 45 references

- 2 figures

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10

PLoS One

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. 2025 Dec 17;20(12):e0338888.

doi: 10.1371/journal.pone.0338888. eCollection 2025.

# Patterns of symptom deterioration can support multimorbidity management in COPD: Perspectives of patients and healthcare professionals

Sanne H B van Dijk [1 2], Marjolein G J Brusse-Keizer [1 3], Bente Rodenburg [2], Anke Lenferink [1 2]

Affiliations Expand

- PMID: 41406180
- PMCID: PMC12711060
- DOI: 10.1371/journal.pone.0338888

Abstract

Introduction: Comorbidities significantly complicate COPD management. Remote monitoring could aid real-time disease and symptom management, assisting both patients with multimorbidity and healthcare professionals (HCPs). This study aimed to explore how insight in patterns of symptom deterioration, derived from remote monitoring, could enhance multimorbid COPD management as perceived by patients and HCPs.

Methods: Using daily symptom data collected via a mobile diary in the prospective RE-SAMPLE cohort study, patterns of symptom deterioration of COPD, chronic

heart failure, anxiety, and depression were visualized per patient (follow-up duration of ≥4 months). Semi-structured individual interviews were conducted with Dutch patients with COPD and ≥1 comorbidity, and with HCPs from pulmonology, cardiology, and medical psychology who were involved in care for patients with multimorbidity. Interviews addressed current multimorbid COPD management, its challenges, and the way pattern visualizations of symptoms deterioration could support disease management. Transcripts were thematically analyzed using an inductive approach.

Results: 7 patients (69-80 years, 4 men) and 7 HCPs were interviewed in the hospital (patients and HCPs), at home (patients) or online (HCPs). Three overarching themes were identified, representing the elements of multimorbid COPD management that could be supported by the pattern visualizations: 1) relationship between diseases, 2) decision-making, and 3) self-management. According to patients and HCPs, pattern visualizations can be an informative source to explain the relation between COPD and comorbidities, function as a conversation starter facilitating communication between patients and HCPs as well as between medical disciplines, and educate patients in adequately recognizing their care needs.

Conclusion: Three elements of personalized multimorbid COPD management were identified through qualitative analysis, which can all be supported by visualizing patterns of symptom deterioration via remote monitoring. The visualizations could enhance patients' understanding of their diseases, improve shared decision-making, improve in-hospital multidisciplinary collaboration, and support multimorbid COPD (self-)management.



Conflict of interest statement

The authors have declared that no competing interests exist.

- 59 references
- 2 figures

Supplementary info

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11

Respir Res

. 2025 Dec 16.

doi: 10.1186/s12931-025-03438-9. Online ahead of print.

# Accuracy, comprehensiveness and understandability of AI-generated answers to questions from people with COPD: the AIR-COPD Study

Mattia Nigro [1 2], Greta E Behring [1 2], Andrea Aliverti [3], Alessandra Angelucci [3], Anita Kay Simonds [4 5], Antonio Anzueto [6], Peter Martin Calverley [7], Francesco Amati [1 2], Anna Stainer [1 2], Apostolos Bossios [8 9 10], Hilary Pinnock [11], Jeanette Boyd [12], Pippa Powell [12], Stefano Aliberti [13 14]; AIR-COPD Task Force

Collaborators, Affiliations Expand

- PMID: 41402777

- DOI: 10.1186/s12931-025-03438-9

Free article

*No abstract available*

Keywords: AI; Accuracy; Artificial intelligence; COPD; Comprehensiveness; Disease awareness; Reliability; Understandability.

Conflict of interest statement

Declarations: The AIR-COPD study was conducted in agreement with the current version of Declaration of Helsinki and the applicable regulations. Ethics approval and consent to participate: Not applicable. No interventions have been performed on patients for this research. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 19 references

Full text links



12

Sci Rep

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doi: 10.1038/s41598-025-32126-3. Online ahead of print.

# Impact of obstructive sleep apnea on functional performance and muscle quality of patients with COPD

Patrícia Faria Camargo [1], Guilherme Dionir Back [1], Luiz Carlos Soares de Carvalho-Junior [2], Cássia da Luz Goulart [3], Letícia Roberta Lourencetti [1], Larissa Anjolim Felicio [1], Audrey Borghi-Silva [1], Audrey Borghi Silva [4 5]

Affiliations Expand

- PMID: 41402506

- DOI: 10.1038/s41598-025-32126-3

Free article

## Abstract

This study investigated the association between nocturnal oxygen desaturation, muscle quality, and functional performance in individuals with Chronic Obstructive Pulmonary Disease (COPD), with and without coexisting Obstructive Sleep Apnea (OSAS). Forty-four participants (COPD: n = 22; COPD-OSAS: n = 22) underwent a standardized three-day evaluation protocol comprising: (1) clinical assessment, body composition analysis, and pulmonary function testing; (2) cardiac function evaluation and home sleep monitoring; and (3) handgrip strength (HGS) and six-minute walk test (6MWT). Muscle quality was operationalized as the ratio between appendicular skeletal muscle mass and isometric strength. Sleep parameters, including the apnea-hypopnea index (AHI) and oxygen desaturation index (ODI), were obtained via home polysomnography. Patients with COPD-OSAS showed significantly reduced 6MWT distance and HGS values compared with those with isolated COPD ($p < 0.05$). Indices of sleep-disordered breathing exhibited significant inverse associations with functional performance and muscle quality. In multivariable regression, sex, AHI, and ODI were identified as independent predictors of muscle quality, with ODI representing the strongest contributor after adjustment. These findings indicate that individuals with COPD-OSAS present greater impairments in muscle quality and physical performance, and that hypoxic burden is closely related to these outcomes. Further studies with larger cohorts and longitudinal designs are needed to elucidate underlying mechanisms and to determine the long-term clinical implications of these associations.

Keywords: Blood oxygen index; COPD; Functional capacity; OSAS.



Conflict of interest statement

**Declarations. Competing interests: The authors declare no competing interests. Conflict of interest: All authors certify that they have no affiliations with or involvement in any organization or entity with any financialinterest (such as honoraria, educational grants, participation in speakers' bureaus, membership, employment, consultancies, stock ownership or other equityinterests, and expert testimony or patent-licensing arrangements) or any non-financial interest (such as personal or professional relationships, affiliations,knowledge or beliefs) in the subject matter or materials discussed in this manuscript**

- **54 references**

**Supplementary info**

**Grants and fundingExpand**

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**13**

**Tuberc Respir Dis (Seoul)**

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**. 2025 Dec 16.**

**doi: 10.4046/trd.2025.0121. Online ahead of print.**

# Addressing Low Physical Activity in COPD: The Importance of Patients' Symptom Perception

**Sungmin Zo [1], Danbee Kang [2 3], Sung A Kong [2], Sun Hye Shin [4], Jiseon Lee [2 3], Jong Geol Do [5], Hye Yun Park [4]**

**Affiliations Expand**

- **PMID: 41399187**

- **DOI: 10.4046/trd.2025.0121**

**Free article**

## Abstract

**The importance of pulmonary rehabilitation (PR) in chronic obstructive pulmonary disease (COPD) is well established, but improving adherence remains a challenge,**

particularly among patients with low physical activity (PA) despite adequate physical capacity (PC). This prospective study categorized COPD patients into 'Do do' (≥30 min/day moderate-to-vigorous PA [MVPA]) and 'Don't do' (<30 min/day MVPA) groups using Fitbit data. Baseline characteristics, pulmonary function, exercise capacity, and patient-reported outcomes (PROs)-including the mMRC, COPD Assessment Test (CAT) and Patient Health Questionnaire-9 (PHQ-9)-were assessed. Factors associated with low PA were identified by logistic regression analysis. Among the 96 patients, 44 were in the 'Do do' group and 52 in the 'Don't do' group. 'Don't do' group exhibited significantly lower 6-minute walk distance (6MWD, 424m vs. 488m, p = 0.005) and reduced pulmonary function (FEV1: 46.73% vs. 54.48%, p = 0.005), as expected. However, PRO analysis revealed that the 'Don't do' group had higher dyspnea scores (mMRC: 1.77 vs. 1.30, p = 0.019) and greater breathlessness on the CAT (OR 1.31, 95% CI 1.06-1.62), even after adjusting for 6MWD and pulmonary function. This trend persisted in the 'Can do' subgroup with high PC, indicating that dyspnea remains a major barrier to PA despite preserved PC. Low PA in COPD patients is influenced not only by PC but also by subjective symptoms such as breathlessness and fatigue. These findings highlight the importance of integrating PROs into PR assessments to identify barriers and enhance adherence. Addressing symptom burden through targeted interventions may improve PA engagement and optimize PR outcomes.

**Keywords:** Pulmonary rehabilitation, Physical activity, Patient-reported outcomes.



**14**

**Editorial**

**World J Psychiatry**

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**. 2025 Dec 19;15(12):111058.**

**doi: 10.5498/wjp.v15.i12.111058.**

# Comorbid depression and autonomic dysfunction reduce lung function in patients with chronic obstructive pulmonary disease

Jiang-Bo Li [1], Wei Rong [2]

**Affiliations Expand**

- PMID: 41357935
- PMCID: PMC12679132
- DOI: 10.5498/wjp.v15.i12.111058



**Abstract**

The high comorbidity rates of depression and chronic obstructive pulmonary disease (COPD) have garnered widespread attention. As a refractory disease, its long-term stress effects exacerbate the coexistence of depression. Depression is linked to a decline in lung function in patients with COPD through reduced heart rate variability, increased inflammatory cytokines, dysregulation of the hypothalamic-pituitary-adrenal axis, and the interplay of various biological and psychological factors. Sole reliance on biomedical treatment cannot fully counteract these negative effects, which are detrimental to improving patients' quality of life and long-term prognosis. Antidepressant medications and traditional Chinese medicine combined with conventional COPD therapy, psychotherapy (*e.g.*, cognitive behavioral therapy, mindfulness training), and lifestyle adjustments (*e.g.*, yoga, qigong, or walking) can not only alleviate depression and compensate for the limitations of biomedical approaches but also help improve heart rate variability and lung function. In this editorial, we suggest that clinicians, when prescribing antidepressants, must carefully weigh the benefit-risk ratio based on the patient's specific physical condition to ensure precise medication use.



Keywords: Antidepressants; Autonomic dysfunction; Chronic obstructive pulmonary disease; Depression; Heart rate variability; Lung function.




**Conflict of interest statement**

Conflict-of-interest statement: All the authors report no relevant conflicts of interest for this article.

- 52 references

**Supplementary info**

**Publication typesExpand**

**Full text links**

**Practice Guideline**

**Eur Respir J**

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**. 2025 Dec 18;66(6):2501126.**

**doi: 10.1183/13993003.01126-2025. Print 2025 Dec.**

# European Respiratory Society clinical practice guideline for the management of adult bronchiectasis

James D Chalmers [1 2], Charles S Haworth [3], Patrick Flume [4], Merete B Long [5], Pierre-Régis Burgel [6], Katerina Dimakou [7], Francesco Blasi [8 9], Beatriz Herrero-Cortina [10 11], Raja Dhar [12], Sanjay H Chotirmall [13 14], Felix C Ringshausen [15 16 17], Josje Altenburg [18], Lucy Morgan [19], Mattia Nigro [20 21], Megan L Crichton [5], Chayenne Van Meel [22], Oriol Sibila [23], Alan Timothy [24], Eliza Kompatsiari [24], Tanja Hedberg [24], Thomas Vandendriessche [22], Pamela J McShane [25], Thomy Tonia [26], Kevin Winthrop [27], Michael R Loebinger [28], Natalie Lorent [29 30], Pieter Goeminne [31], Michal Shteinberg [32 33], Eva Polverino [34], Stefano Aliberti [21 22 2]

**Affiliations Expand**

- **PMID: 41016738**

- **DOI: 10.1183/13993003.01126-2025**

**Abstract**

**Background: Bronchiectasis is a common lung condition associated with wide range of infectious, immunological, autoimmune, allergic and genetic conditions. Exacerbations and daily symptoms have the largest impact on patients and healthcare systems, and they are the key focus of treatments. Current practice is heterogeneous globally, and bronchiectasis has historically been a neglected disease. Here, we present evidence-based international guidelines for the management of adults with bronchiectasis.**

**Methods: A European Respiratory Society (ERS) Task Force, comprising global experts, a methodologist and patient representatives, developed clinical practice guidelines in accordance with ERS methodology and the GRADE (Grading of Recommendations, Assessment, Development and Evaluations) approach. Systematic literature searches, data extraction and meta-analysis were performed to generate evidence tables, and recommendations were formulated using the evidence-to-decision framework. A total of eight PICO (Patients, Intervention, Comparator, Outcomes) questions and three narrative questions were developed.**

**Recommendations: The Task Force recommendations include strong recommendations in favour of airway clearance techniques for most patients with bronchiectasis, and pulmonary rehabilitation for those with impaired exercise capacity. We issue a strong recommendation for the use of long-term macrolide treatment for patients at high risk of exacerbations and a strong recommendation in favour of long-term inhaled antibiotics in patients with chronic *Pseudomonas aeruginosa* infection at high risk of exacerbation. Conditional recommendations support the use of eradication treatment or mucoactive drugs in specific circumstances. We suggest not to routinely use long-term oral, non-macrolide antibiotic treatment or inhaled corticosteroids. Additional guidance is also provided on testing for underlying causes, managing exacerbations and managing the deteriorating patient.**

**Conclusion: The ERS bronchiectasis guidelines provide an evidence-based framework for optimal management of adults with bronchiectasis and serve as a benchmark for evaluating the quality of care.**



**Conflict of interest statement**

**Conflict of interest: J.D. Chalmers (co-chair) declares grants and personal fees from Antabio, AstraZeneca, Boehringer Ingelheim, CSL Behring, Genentech, Gilead Sciences, GlaxoSmithKline, Grifols, Insmed, Novartis, Pfizer, Trudell and Zambon. C.S. Haworth declares grants or personal fees from 30 Technology, AstraZeneca, BiomX, Chiesi, Insmed, Lifearc, Pneumagen, Vertex and Zambon. P. Flume declares grants from Aceragen. Boehringer Ingelheim, Insmed, National Institutes of Health, Renovion, Sanofi, Synchrony, Verona, BiomX, COPD Foundation, Inogen and Zambon. P-R. Burgel declares grants and personal fees from AstraZeneca, Chiesi, GlaxoSmithKline, Insmed, MSD, Novartis, Pfizer, Sanofi, Vertex, Viatris and Zambon. F. Blasi declares grants and personal fees from Chiesi, GlaxoSmithKline, Grifols, Insmed, Menarini, OM Pharma, Pfizer, Sanofi, Vertex, Viatris and Zambon. R. Dhar declares grants and personal fees from Abbott, Cipla, Glenmark, GlaxoSmithKline, Lupin, Sanofi, Thorasys and Zuventus. S.H. Chotirmall declares grants or personal fees from Boehringer Ingelheim, Chiesi, Inovio and Pneumagen. F.C. Ringshausen declares grants and personal fees from i!DE Werbeagentur, German Center for Infection Research (DZIF), German Center for Lung Research (DZL), German Cystic Fibrosis Patient Advisory Group (Mukoviszidose e.V.), German Kartagener Syndrome and Primary Ciliary Dyskinesia Patient Advisory Group, Grifols, Helmholtz Center for Infection Research, Innovative Medicines Initiative (IMI; EU/EFPIA) and the iABC Consortium, Boehringer Ingelheim, Chiesi, Insmed, Mukoviszidose Institute, Novartis, Pari, Parion Sciences, Sanofi, Vertex and Zambon. L. Morgan declares grants or personal fees from AstraZeneca, GlaxoSmithKline, Insmed and Zambon. M.L. Crichton declares grants and personal fees from AstraZeneca, Boxer Capital LLC, Chiesi, Grifols, Insmed, Janssen, Lifearc, Novartis and Zambon. A. Timothy declares membership of the European Lung Foundation/EMBARC Patient Advisory Group. E. Kompatsiari declares membership of the European Lung Foundation/EMBARC Patient Advisory Group. T. Hedberg declares membership of the European Lung Foundation/EMBARC Patient Advisory Group. P.J. McShane declares personal fees from Boehringer Ingelheim and Insmed. T. Tonia acts as ERS methodologist. K. Winthrop declares grants and**

personal fees from Insmed and Zambon. M.R. Loebinger declares personal fees from 30 Technology, AN2 Therapeutics, Armata, AstraZeneca, Boehringer Ingelheim, Chiesi, Electromed, Ethris, Insmed, Mannkind, Parion, Recode and Zambon. N. Lorent declares personal fees from GlaxoSmithKline and Insmed. P. Goeminne declares personal fees from Chiesi, GlaxoSmithKline and MDF. M. Shteinberg declares grants or personal fees from AstraZeneca, Boehringer Ingelheim, Bonus Biogroup, Dexxon, GlaxoSmithKline, Kamada, Rafa, Sanofi and Synchrony Medical. E. Polverino declares grants and/or personal fees from Chiesi, Insmed, Grifols, Pari, CSL Behring, Moderna, Pfizer, Shionogi, Shire, Teva, Vertex and Zambon. S. Aliberti declares grants or personal fees from AstraZeneca, Brahms, Chiesi, GlaxoSmithKline, Insmed, Menarini and PhysioAssist. The remaining authors have no potential conflicts of interest to disclose.

- Cited by 3 articles

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links



# "Multimorbidity"[Mesh Terms] OR Multimorbidity[Text Word]

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PLoS One

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. 2025 Dec 18;20(12):e0338896.

doi: 10.1371/journal.pone.0338896. eCollection 2025.

## The role of lifestyle in mitigating cognitive decline in older adults with cardiometabolic multimorbidity (CMM): A protocol of systematic review and meta-analysis

Junyang Song [1], Frances O'Brien [1], Jessica Eustace-Cook [1], Sharon O'Donnell [1]

Affiliations Expand

- PMID: 41411275

- PMCID: PMC12714272

- DOI: 10.1371/journal.pone.0338896

**Abstract**

**Background: Cardiometabolic multimorbidity (CMM), the coexistence of two or more cardiometabolic diseases (CMDs), is increasingly recognized as a key risk factor for cognitive decline and dementia in older adults. Healthy lifestyle behaviors may mitigate these effects, but this remains poorly understood. Given the rising prevalence of CMM worldwide and the urgent need for effective dementia prevention strategies, a systematic review and meta-analysis are warranted to investigate whether and to what extent a healthier lifestyle can mitigate this risk.**

**Methods: A comprehensive search of Embase, Medline, PsycINFO, CINAHL, Web of Science, and Scopus will be conducted to identify longitudinal observational studies reporting incident adverse cognitive outcomes in older adults with CMM, while also exploring the influence of lifestyle factors on such outcomes. Grey literature will be included, and no language or date restrictions will be applied. Retrieved records will be managed in Covidence, with two independent reviewers conducting all review processes. Data will be extracted using a predesigned extraction form. The ROBINS-E tool will be used to assess the risk of bias, and the GRADE approach will evaluate the certainty of evidence. If sufficient homogeneous data are available, a meta-analysis will be conducted; otherwise, findings will be narratively synthesized.**

**Discussion: This systematic review and meta-analysis will provide comprehensive insights into the extent to which a healthier lifestyle may mitigate cognitive decline associated with CMM. The findings may inform future intervention designs to promote healthy aging and reduce the risk of cognitive impairment among individuals with CMM.**

**Prospero registration: Prospero registration ID: CRD420251000046. Registered on 26th February 2025.**



**Conflict of interest statement**

**The authors have declared that no competing interests exist.**

- 43 references
- 1 figure

**Supplementary info**

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2

PLoS One

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. 2025 Dec 18;20(12):e0337586.

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# The hidden risks of polypharmacy: Exploring potentially inappropriate prescribing with STOPP/START criteria version 3-A cross-sectional study

Mikołaj Szoszkiewicz [1], Ewa Deskur-Śmielecka [2], Arkadiusz Styszyński [2], Marcel Kusyń [3], Kamila Krzemińska [3], Barbara Więckowska [4], Agnieszka Neumann-Podczaska [2 5], Katarzyna Wieczorowska-Tobis [2]

Affiliations Expand

- PMID: 41411235

- PMCID: PMC12714279

- DOI: 10.1371/journal.pone.0337586

## Abstract

Polypharmacy and inappropriate prescribing are critical challenges in geriatric medicine, leading to adverse drug reactions, hospitalizations, and increased healthcare costs. The updated STOPP/START version 3 criteria provide an expanded tool for identifying potentially inappropriate medications (PIMs) and potentially prescribing omissions (PPOs) in older adults. This study aimed to evaluate the prevalence of PIMs and PPOs in a cohort of partially dependent older patients and identify factors associated with prescribing inappropriateness. A retrospective, cross-sectional study was conducted in two day-care centres in Poland. The study included 296 patients with polypharmacy (≥5 medications) and partial dependency. PIMs and PPOs were identified using STOPP/START version 3, and data were analyzed for factors influencing the prevalence of inappropriate prescribing. STOPP version 3 identified 543 PIMs in 73.6% of participants, with the most frequent related to analgesics as well as acetylsalicylic acid in cardiovascular indications. START version 3 detected 517 PPOs in 78.7% of patients, with cardiovascular treatments and laxatives being the most commonly omitted. Factors influencing PIMs prevalence included the number of received medications, the diagnosis of depression, and recurrent falls in the previous year. PPOs prevalence

was significantly associated with multimorbidity, a high number of received medications, the diagnosis of heart failure, coronary artery disease, benign prostate hyperplasia and depression. Our study highlights the importance of using tools for optimizing pharmacotherapy due to the high prevalence of both PIMs and PPOs. Many frequent inappropriate prescribing regard relatively new medications and refer to recent updates in evidence-based medicine.



Conflict of interest statement

The authors have declared that no competing interests exist.

- 29 references

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PLoS One

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. 2025 Dec 17;20(12):e0338888.

doi: 10.1371/journal.pone.0338888. eCollection 2025.

# Patterns of symptom deterioration can support multimorbidity management in COPD: Perspectives of patients and healthcare professionals

Sanne H B van Dijk [1 2], Marjolein G J Brusse-Keizer [1 3], Bente Rodenburg [2], Anke Lenferink [1 2]

Affiliations Expand

- PMID: 41406180

- PMCID: PMC12711060

- DOI: 10.1371/journal.pone.0338888

**Abstract**

**Introduction: Comorbidities significantly complicate COPD management. Remote monitoring could aid real-time disease and symptom management, assisting both patients with multimorbidity and healthcare professionals (HCPs). This study aimed to explore how insight in patterns of symptom deterioration, derived from remote monitoring, could enhance multimorbid COPD management as perceived by patients and HCPs.**

**Methods: Using daily symptom data collected via a mobile diary in the prospective RE-SAMPLE cohort study, patterns of symptom deterioration of COPD, chronic heart failure, anxiety, and depression were visualized per patient (follow-up duration of ≥4 months). Semi-structured individual interviews were conducted with Dutch patients with COPD and ≥1 comorbidity, and with HCPs from pulmonology, cardiology, and medical psychology who were involved in care for patients with multimorbidity. Interviews addressed current multimorbid COPD management, its challenges, and the way pattern visualizations of symptoms deterioration could support disease management. Transcripts were thematically analyzed using an inductive approach.**

**Results: 7 patients (69-80 years, 4 men) and 7 HCPs were interviewed in the hospital (patients and HCPs), at home (patients) or online (HCPs). Three overarching themes were identified, representing the elements of multimorbid COPD management that could be supported by the pattern visualizations: 1) relationship between diseases, 2) decision-making, and 3) self-management. According to patients and HCPs, pattern visualizations can be an informative source to explain the relation between COPD and comorbidities, function as a conversation starter facilitating communication between patients and HCPs as well as between medical disciplines, and educate patients in adequately recognizing their care needs.**

**Conclusion: Three elements of personalized multimorbid COPD management were identified through qualitative analysis, which can all be supported by visualizing patterns of symptom deterioration via remote monitoring. The visualizations could enhance patients' understanding of their diseases, improve shared decision-making, improve in-hospital multidisciplinary collaboration, and support multimorbid COPD (self-)management.**



**Conflict of interest statement**

**The authors have declared that no competing interests exist.**

- 59 references
- 2 figures

**Supplementary info**

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4

J Am Heart Assoc

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. 2025 Dec 17:e045294.

doi: 10.1161/JAHA.125.045294. Online ahead of print.

# Prognostic Impact of Cardiovascular-Kidney-Metabolic Overlap Among Patients With Acute Heart Failure: Insights From a Real-World Multinational Cohort

Matteo Marchetti [1], Panagiotis Antiochos [1], Barbara Pitta-Gros [1], Tamila Abdurashidova [1], Nisha Soborun [1], Pierre Monney [1], Patrick Yerly [1], Georgios Tzimas [1], Ioannis Skalidis [2], Peter Vollenweider [3], Baris Gencer [1], Fadi Fakhouri [4], Muthiah Vaduganathan [5], Roger Hullin [1], Henri Lu [1 5]

Affiliations Expand

- PMID: 41404735

- DOI: 10.1161/JAHA.125.045294

Free article

## Abstract

**Background:** The prognostic significance of cardiovascular-kidney-metabolic (CKM) multimorbidity in acute heart failure (AHF) remains unclear. We evaluated its association with clinical outcomes in a real-world, multinational cohort of patients with AHF.

**Methods:** We included patients with AHF hospitalized from 2005 to 2020 at 2 tertiary care centers in Switzerland and Kyrgyzstan. Patients were categorized based on the number of CKM conditions in addition to HF (0-3). CKM conditions included prior myocardial infarction, impaired kidney function (estimated glomerular filtration rate <60 mL/min/m$^2$), and diabetes. The association between the number of CKM conditions and the primary outcome of HF hospitalization or all-cause death was assessed with Cox models.

**Results: Among 1745 patients (69% Swiss, 44% female, age 74±13 years, left ventricular ejection fraction 43±16%), at baseline, 18.9% had HF alone, 39.0% had 1 CKM condition, 30.7% had 2, 11.4% had 3. Impaired kidney function was the most prevalent CKM condition (n=1011), followed by prior myocardial infarction (n=742) and diabetes (n=595). At 1 year, 731 patients (41.9%) experienced the primary outcome. Compared with HF alone, an increasing number of CKM conditions was associated with stepwise increases in the risk of the primary outcome (adjusted hazard ratios [HRs], 1.27 [95% CI, 1.01-1.59], 1.50 [95% CI, 1.19-1.89], and 2.10 [95% CI, 1.59-2.77] for 1, 2, and 3 CKM conditions). These associations remained consistent regardless of sex, age, and left ventricular ejection fraction ($P_{interaction}$>0.05 for all).**

**Conclusions: In this real-world cohort of hospitalized patients with AHF, CKM multimorbidity was common and associated with a stepwise increase in the risk of adverse outcomes. These data underscore the importance of comprehensive CKM assessment in an AHF setting.**

**Keywords: CKM syndrome; acute heart failure; real-world cohort.**



**5**

**J Clin Endocrinol Metab**

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**. 2025 Dec 18;111(1):e58-e69.**

**doi: 10.1210/clinem/dgaf342.**

# The Relationships Between MASLD, Extrahepatic Multimorbidity, and All-Cause Mortality in the UK Biobank Cohort

Qi Feng [1], Chioma N Izzi-Engbeaya [2], Andrea D Branch [3], Benjamin H Mullish [4 5], Pinelopi Manousou [4 5], Mark Woodward [1 6]

**Affiliations Expand**

- **PMID: 40493745**
- **PMCID: PMC12712988**

- DOI: 10.1210/clinem/dgaf342

**Abstract**

**Context: Metabolic dysfunction-associated steatotic liver disease (MASLD) affects one third of the world's population, but its associations with extrahepatic multimorbidity and mortality remain unclear.**

**Objective: This study aimed to estimate the impact of MASLD, with and without multimorbidity, on all-cause mortality.**

**Methods: We analyzed data from the UK Biobank. MASLD was identified as a fatty liver index ≥60 and presence of cardiometabolic risk factors. Multimorbidity was defined as ≥2 of the long-term conditions (LTCs) in a prespecified list of 47 extrahepatic conditions. Hazard ratios (HRs) from adjusted Cox models quantified the association between MASLD, multimorbidity and all-cause mortality.**

**Results: Of the 438 840 participants, 131 020 (29.9%) had MASLD at baseline. The participants with MASLD at baseline had a higher prevalence of multimorbidity than those without (21.3% vs 14.4%). In addition to cardiometabolic risk factors, MASLD was strongly associated with several LTCs, particularly metabolic, cardiovascular, cancers, kidney, mental/behavioral, and respiratory diseases. During a median follow-up of 13 years, MASLD was associated with higher mortality (HR 1.16; 95% CI 1.13, 1.19), with stronger associations in females and in those with low LTC counts (≤3 LTCs). Each additional LTC at baseline was associated with 30% and 38% higher mortality in MASLD (HR 1.30; 1.29, 1.32) and non-MASLD (HR 1.38; 1.37, 1.40) populations, respectively. Among the 47 LTCs, 16 were associated with increased mortality in people with MASLD.**

**Conclusion: Those with MASLD exhibited a higher prevalence of extrahepatic multimorbidity and a 16% higher rate of mortality than those without, underscoring the impact of liver steatosis on mortality and highlighting the need to target LTCs to improve outcomes and reduce health care burdens.**

**Keywords: MASLD; NAFLD; UK Biobank; all-cause mortality; long-term conditions; multimorbidity; sexual dimorphism.**



- Cited by 4 articles
- 54 references
- 1 figure

**Supplementary info**

**MeSH terms, Grants and fundingExpand**

**Full text links**

# "asthma"[MeSH Terms] OR asthma[Text Word]

1

NPJ Prim Care Respir Med

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. 2025 Dec 19.

doi: 10.1038/s41533-025-00465-3. Online ahead of print.

## A guide for a patient-centric approach to asthma management: results of a European Delphi consensus programme

Fulvio Braido [1], Ilaria Baiardini [2], Simona Barbaglia [3], Susanna Palkonen [4], Armando Ruiz [5], Ioanna Tsiligianni [6 7], Johann Christian Virchow [8], Tonya Winders [9]

Affiliations Expand

- PMID: 41419519

- DOI: 10.1038/s41533-025-00465-3

### Abstract

Background: The Global Initiative for Asthma 2024 report recommends a shared decision-making approach to guide treatment choice, encompassing patients' goals, beliefs and concerns about asthma and medications (GINA. Global Strategy for Asthma Management and Prevention, 2024). There is limited guidance on ways to achieve this goal. This consensus programme aimed to create recommendations on optimal selection of inhaler treatment while considering patient perspectives and needs.

Methods: A literature review was conducted on literature published between 01/01/2014 and 23/04/2024 using agreed keywords and search parameters in PubMed and Cochrane databases. Evidence on impact of patient factors on adherence and asthma control, plus inhaler preference data, was analysed. A consensus voting panel was selected via screening questionnaire, with 50 patients with asthma duration ≥5 years and 39 healthcare professionals with expertise in asthma from five European countries (Germany, France, Czechia, Italy, Greece). A two-round Delphi method was used.

Results: 40/135 papers were considered relevant. From these, 20 consensus statements were developed in four areas: patient-centred treatment selection, medication/asthma beliefs, patient preference + shared decision-making, and tools for patient-centred care. 18/20 consensus statements were accepted with an agreement threshold >85% on the first round of voting. Two revised statements underwent a second Delphi round, again failing to reach consensus.

**Conclusions: This important initiative generated much-needed guidance on integrating patient views and needs into treatment decision-making following a well-established methodology through 18 consensus statements, with nearly equal input from patients and healthcare professionals.**



**Conflict of interest statement**

**Competing interests: Ioanna Tsiligianni is an Editor-in-Chief of npj Primary Care Respiratory Medicine and was not involved in the peer-review or handling of the manuscript. F.B., I.B., S.B., S.P., A.R., I.T. and J.C.W declare no financial or non-financial competing interests. T.W. has received speaker/advisor fees from AstraZeneca, Chiesi, Eli Lilly, GlaxoSmithKline, Novartis, Roche and Sanofi Regeneron.**

- **51 references**



**2**

**Comparative Study**

**BMJ Open Respir Res**

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**. 2025 Dec 18;12(1):e003216.**

**doi: 10.1136/bmjresp-2025-003216.**

# Initial treatment of COPD with LABA-ICS or LABA-LAMA: real-world comparative effectiveness

**Samy Suissa [1 2], Mathew Cherian [3], Sophie Dell'Aniello [2], Pierre Ernst [2 3]**

**Affiliations Expand**

- **PMID: 41419233**

- **DOI: 10.1136/bmjresp-2025-003216**

**Abstract**

**Background: The 2023 Global initiative for chronic Obstructive Lung Disease (GOLD) recommendations advocate long-acting beta$_2$ agonist (LABA) and long-acting muscarinic antagonist (LAMA) combinations (LABA-LAMA) for the initial pharmacological treatment of patients with chronic obstructive pulmonary disease (COPD) with multiple exacerbations. However, this choice, rather than combinations of LABA and inhaled corticosteroids (LABA-ICS), no longer recommended in GOLD, was based on randomised trials that excluded patients with multiple prior exacerbations.**

**Research question: What is the comparative effectiveness of initiating COPD treatment with LABA-ICS versus LABA-LAMA inhalers, particularly in patients with multiple COPD exacerbations, in a real-world clinical practice setting?**

**Study design and methods: We identified a cohort of patients with COPD, 40 years of age or older, from the United Kingdom's Clinical Practice Research Datalink. Treatment-naïve initiators of single-inhaler LABA-ICS or LABA-LAMA, with no prior asthma, LABA, LAMA or ICS use, were compared on the incidence of moderate or severe COPD exacerbation over 1 year, after adjustment by propensity score weighting.**

**Results: The study cohort included 20 750 initiators of LABA-ICS inhalers and 16 594 of LABA-LAMA. The overall adjusted HR of a first moderate or severe exacerbation with LABA-ICS relative to LABA-LAMA was 1.03 (95% CI 0.98 to 1.08). Among patients with two or more prior exacerbations, the HR of exacerbation with LABA-ICS versus LABA-LAMA was 0.89 (95% CI 0.81 to 0.97), while it was 1.07 (95% CI 1.00 to 1.15) among patients with no prior exacerbations. The HR was 0.92 (95% CI 0.86 to 0.99) among those with forced expiratory volume in 1 s ($FEV_1$)≥50% predicted.**

**Interpretation: In a real-world clinical practice setting of COPD treatment, initiating therapy with LABA-ICS inhalers may be more effective than LABA-LAMA inhalers among patients with multiple exacerbations, particularly those with $FEV_1$≥50% predicted, but less effective among those with no prior exacerbations and $FEV_1$<50% predicted. This study supports a targeted approach to initial therapy for COPD. .**

**Keywords: COPD Exacerbations; COPD epidemiology.**



**Conflict of interest statement**

**Competing interests: S Suissa attended scientific advisory meetings for Boehringer-Ingelheim, Novartis, and Panalgo, and received speaking fees from Boehringer-Ingelheim, Covis Pharma and CSL Behring, all in the last three years. SD'A and PE have no conflicts.**

**Supplementary info**

**Publication types, MeSH terms, SubstancesExpand**

**Full text links**

Cite

3

Respir Med

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. 2025 Dec 17:108597.

doi: 10.1016/j.rmed.2025.108597. Online ahead of print.

# TETRIS - Prospective study to observe clinical outcomes of triple therapy in COPD patients: up to 12 months interim analysis

Gernot Rohde [1], Claus F Vogelmeier [2], Kai-Michael Beeh [3], Peter Kardos [4], Thomas Paulsson [5], Henrik Watz [6], Bernd Westermayer [7], Tharishini Mohan [5], Stephen G Noorduyn [8], Jing Claussen [9]

Affiliations Expand

- PMID: 41418889

- DOI: 10.1016/j.rmed.2025.108597

## Abstract

**Background: Real-world cohorts provide a more universal understanding of the factors influencing treatment decision outcomes in patients with chronic obstructive pulmonary disease (COPD).**

**Methods: The objective of the TETRIS study is to elucidate influences on treatment decisions surrounding triple therapy (TT) in COPD patients over a 2-year follow-up period in a real-world setting in Germany. TETRIS included 1217 patients with COPD with/without asthma, already on TT for 2-48 weeks. Here, we report interim analyses of clinical endpoints at the 6-month and 1-year follow-up visits in subgroups of patients (n=840) stratified based on single versus multiple-inhaler TT (SITT versus MITT), once versus twice-daily TT (OD versus BID) and different SITTs the patients were currently on.**

**Results: Mean number of hospitalisations due to exacerbations was significantly lower among the subgroup on fluticasone furoate, umeclidinium, and vilanterol administered OD (FF/UMEC/VI OD) versus budesonide, glycopyrrolate, and formoterol fumarate administered BID (BUD/GLY/FOR BID) subgroup at 6 months and 1-year (both, p<0.0001) as well as among OD versus BID TT subgroups at 1-year (p=0.02). The change in mean COPD assessment test sum score was significantly**

**greater in the SITT versus MITT and OD versus BID TT subgroups at 6 months (p=0.0018 and p=0.0202, respectively) and 1-year (p=0.0071 and p=0.0002, respectively), and in the FF/UMEC/VI OD versus BUD/GLY/FOR BID subgroup at 1-year (p=0.0004).**

**Conclusion: Overall, SITT dosed OD, specifically FF/UMEC/VI is associated with a significant reduction in hospitalisations due to exacerbations and improvement in symptoms at the 6-month and 1-year follow-up visits.**

**Registration: https://clinicaltrials.gov/study/NCT04657211.**

**Keywords: Chronic obstructive pulmonary disease; multiple-inhaler triple therapy; persistence with therapy; single-inhaler triple therapy; treatment adherence; triple therapy.**



**Conflict of interest statement**

**Declaration of Competing Interest ☒The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: MJ reports consulting fees from Novartis, GSK, BerlinChemie Menarini, Sanofi, AstraZeneca, Abbvie, ALK Slovakia; honoraria and speaker's fee from Takeda, ALK Slovakia, BerlinChemie Menarini, Abbvie, Sanofi, Novartis, Stallergenes-Greer, Chiesi, Pfizer; travel grants from Takeda, Novartis, ALK Slovakia, Abbvie; served as a member of Advisory boards for SOBI, Novartis, Takeda, AstraZeneca, Chiesi, Stallergenes-Greer and served as a president of Slovak Society of Allergy and Clinical Immunology and Repiratory Medicine – associated editor. AB reports consulting fees from Novartis, AsrtaZeneca, BerlinChemie Menarini, Abbvie, Stallergenes-Greer, ALK Slovakia; honoraria and speaker's fee from Takeda, ALK Slovakia, BerlinChemie Menarini, Chiesi, Novartis, Stallergenes-Greer; travel grants from Takeda, Novartis, ALK Slovakia and served as a board member of Slovak Society of Allergy and Clinical Immunology. KG reports grants from GSK, Sanofi, Stimag, ALK; honoraria and speaker's fee from GSK, Sanofi. IKK served as EAACI Immunology Section Secretary and EAACI Task Force on skin microbiome member. SFS reports grant from Hippo Dx and Galenus Health. ZR reports honoraria and speaker's fee from MSD, Schwabe, Pleuran, BerlinChemie Menarini, Danone/Nutricia, Ewopharma, Chiesi, Angelini Pharma; received travel grants from Sanofi, BerlinChemie Menarini, Novartis, ALK, Stallergenes-Greer; served as a member of Advisory board for ALK Slovakia PD received honoraria and speaker's fee from ALK Slovakia and served as a chief expert of Ministry of Health of Slovakia in paediatric pneumology and phthisiology, member of board of Slovak Paediatric Association and Slovak Society of Sleep Medicine. ET reports honoraria and speaker's fee from Intramedic. AM reports honoraria and speaker's fee from Takeda Pharmaceuticals Slovakia and Novartis Slovakia; travel grants from Takeda Pharmaceutica RK received consulting fees from ALK Slovakia, Stallergenes-Greer, Pfizer, Chiesi, S&D Pharma CZ; honoraria and speaker's fee from ALK Slovakia, Stallergenes-Greer, Pfizer, Chiesi, AstraZeneca, BerlinChemie Menarini, Sandoz, S&D Pharma CZ, Benela, Sanofi, Viatris and Medigroup; received travel grants from ALK Slovakia and Stallergenes Greer and served as a member of the board of Slovak Society of Allergy and Clinical Immunology. ZD reports consulting fees from Aclaris, Arcede, Arrowheadpharma, Biosion, Curovir, Foresse Pharmaceuticals, Galenus Health, Pleuran, QPS-**

Netherlands, TPG; received honoraria and speaker's fee from GSK, Sanofi Genzyme Regeneron; served as am EAACI Asthma section chair, EUFOREA expert panel chair and Repiratory Medicine – associated editor.

Supplementary info

Associated dataExpand

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Cite

4

Review

Expert Rev Respir Med

. 2025 Dec 18.

doi: 10.1080/17476348.2025.2607151. Online ahead of print.

# A review of the safety of antibody therapy in severe eosinophilic asthma

Maria Gabriella Matera [1], Vito De Novellis [1], Paola Rogliani [2], Mario Cazzola [2]

Affiliations Expand

- PMID: 41412959

- DOI: 10.1080/17476348.2025.2607151

## Abstract

Introduction: Severe eosinophilic asthma (SEA) is characterized by persistent type 2 airway inflammation and frequent exacerbations despite maximal conventional therapy. The advent of biologics targeting interleukin-5, its receptor, and upstream mediators has markedly changed disease management, offering new therapeutic opportunities for patients with uncontrolled disease.

Areas covered: This review evaluates the safety profiles of currently approved biologics for SEA, including mepolizumab, reslizumab, benralizumab, dupilumab, and tezepelumab. Evidence was synthesized from randomized controlled trials,

**open-label extension studies, real-world data, and pharmacovigilance reports. Mepolizumab demonstrates consistent safety with mainly mild adverse events, while reslizumab is effective but rarely associated with myalgia, creatine phosphokinase elevations, and anaphylaxis. Benralizumab shows excellent tolerability, with a low incidence of injection reactions and no excess of serious adverse events. Dupilumab is well tolerated, though blood eosinophilia and conjunctivitis may occur. Tezepelumab approval was supported by favorable safety signals, with mild infections and headache as the most frequent events.**

**Expert opinion: Current evidence indicates that biologic therapies for SEA are safe and well tolerated, with serious adverse events being rare. Nevertheless, long-term and comparative safety data remain limited, and ongoing pharmacovigilance and post-marketing surveillance are essential to fully define risk profiles.**

**Keywords: Severe eosinophilic asthma; benralizumab, dupilumab; mepolizumab; monoclonal antibodies; reslizumab; safety; tezepelumab.**

**Supplementary info**

**Publication typesExpand**

**Full text links**


**Proceed to details**

**Cite**

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**Editorial**

**Eur Respir J**

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**. 2025 Dec 18;66(6):2501979.**

**doi: 10.1183/13993003.01979-2025. Print 2025 Dec.**

# Decreasing inhaled corticosteroids in pregnancy increases the risk for asthma exacerbations: time for new approaches to solve a decades-old problem

**Vanessa E Murphy [1 2]**

**Affiliations Expand**

- **PMID: 41412710**

- DOI: 10.1183/13993003.01979-2025

*No abstract available*

**Conflict of interest statement**

**Conflict of interest: V.E. Murphy has no potential conflicts of interest to declare.**

**Comment on**

- Pregnancy, asthma and exacerbations: a population-based cohort.

**Lee B, Wong E, Tan T, Rupani H, Bloom CI.Eur Respir J. 2025 Dec 18;66(6):2501327. doi: 10.1183/13993003.01327-2025. Print 2025 Dec.PMID: 40876965 Free PMC article.**

**Supplementary info**

**Publication typesExpand**

**Full text links**


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**Cite**

**6**

**BMJ Open**

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**. 2025 Dec 18;15(12):e108426.**

**doi: 10.1136/bmjopen-2025-108426.**

# Association between weather, air quality and asthma-related emergency department visits: a retrospective time-series study in Singapore

Ming Ren Toh [1], Xingdi Wen [2], Gerald Xuan Zhong Ng [3], Adam Quek Rop Fun [4], Puan Youxin [3], Liesel Fong [3], Jun Tian Wu [4], Marcus Ong [5], David Bruce Matchar [6], Ngiap Chuan Tan [7], Chian Min Loo [3 8], Aziz Sheikh [9], Mariko Siyue Koh [3 8], Shao Wei Lam [4]

**Affiliations Expand**

- **PMID: 41412617**

- **PMCID: PMC12716579**

- DOI: 10.1136/bmjopen-2025-108426

**Abstract**

**Objectives: To evaluate the association between asthma-related emergency department (ED) visits and weather, air quality, monsoons, haze and cultural festivals in Singapore.**

**Design: Retrospective cohort study.**

**Setting: A public healthcare cluster that covers 20% of the nation's adult asthma population.**

**Participants: 2617 adult patients accounting for 5337 asthma ED visits between 2016 and 2024.**

**Primary and secondary outcome measures: Temperature, rainfall, wet bulb temperature (WBT), wind speed and Pollution Standards Index (PSI) were correlated with asthma ED counts at 0-7 day lags. Associations between ED visits and monsoons, transboundary haze and cultural festivals were evaluated using one-way analysis of variance. Weekly seasonal ARIMA models with exogenous regressors were fitted, incorporating PSI as a covariate and adjusting for demographic, clinical and socioeconomic factors.**

**Results: Asthma ED visits were positively correlated with PSI (lag 0: r=0.142; 95% CI 0.107 to 0.178) and inversely correlated with rainfall (lag 3: r=-0.062; 95% CI -0.099 to -0.026) and WBT (lag 1: r=-0.067; 95% CI -0.104 to -0.031). Wind speed (lag 2: r=-0.049; 95% CI -0.086 to -0.013) and ambient temperature (lag 6: r=-0.045; 95% CI -0.081 to -0.008) showed weaker inverse associations. Mean PSI was higher during haze (82.67 vs 51.46, p<0.001) and festival periods (53.42 vs 51.57, p=0.001). Mean ED visits fell across successive haze events (2.60 in 2016, 2.36 in 2019, 1.46 in 2023) but peaked during the Northeast monsoons despite lower PSI, indicating weather influences beyond ambient pollution.**

**Conclusions: PSI-ED association peaked on the same day of exposure but was no longer significant after adjusting for demographic and clinical factors. Pollution-linked festivals, transboundary haze and the Northeast monsoon were associated with increased asthma ED visits.**

**Keywords: Asthma; Climate Change; PREVENTIVE MEDICINE.**



**Conflict of interest statement**

**Competing interests: AS reports grant support from Asthma + Lung UK, HDRUK GSK and NIHR. MSK reports grant support from Astra-Zeneca, and honouraria for lectures and advisory board meetings paid to her hospital (Singapore General Hospital) from GlaxoSmithKline, Astra-Zeneca, Novartis, Sanofi, Boehringer Ingelheim and Roche outside the submitted work. All other authors have no competing interest to declare.**

- 37 references

- 4 figures

**Supplementary info**

**MeSH termsExpand**

**Full text links**


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**Cite**

**7**

**Allergy**

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**. 2025 Dec 18.**

**doi: 10.1111/all.70186. Online ahead of print.**

# Type 2 Biomarkers as Mediators of Clinical Remission With Biologics in Severe Asthma

Duong Duc Pham [1], Hyouk-Soo Kwon [1], Woo-Jung Song [1], You Sook Cho [1], Sei Won Lee [2], Ga-Young Ban [3], Taehoon Lee [4], So-Young Park [5], Young-Hee Nam [6], Byung-Jae Lee [7], Jin An [8], Chan Sun Park [9], Hyo-In Rhyou [9], Joo-Hee Kim [10], Hye-Kyung Park [11], Sang-Ha Kim [12], Min-Suk Yang [13], Min-Hye Kim [14], Kyung-Min Ahn [14], Ji-Su Shim [14], Jeong-Hee Choi [15], Sujeong Kim [16], Jae-Woo Jung [17], Han Ki Park [18], Byung Keun Kim [19], Ji-Hyang Lee [20], Young-Chan Kim [20], Sang Min Lee [21], Sung-Yoon Kang [22], Jae-Woo Kwon [23], Gyu Young Hur [24], Ji-Yong Moon [25], Kyoung-Hee Sohn [26], Mi-Ae Kim [27], Sae-Hoon Kim [28], Sunyoung Yoon [29], An-Soo Jang [30], Sang Hoon Kim [31], So Young Park [31], Hyun Jung Jin [32], So Ri Kim [33], Jae-Hyun Lee [34], Pankaj K Bhavsar [35], Ian M Adcock [35], Dixey Piers [35], Nazanin Zounemat-Kermani [35], Yang Freda [35], Pujan H Patel [36], Kian Fan Chung [35], Tae-Bum Kim [1]

**Affiliations Expand**

- **PMID: 41410200**

- **DOI: 10.1111/all.70186**

***No abstract available***

**Keywords: T2-biomarker; mediation effect; remission; severe asthma.**

**Supplementary info**

Publication types, Grants and fundingExpand

Full text links

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8

Review

J Asthma

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. 2025 Dec 18:1-11.

doi: 10.1080/02770903.2025.2603325. Online ahead of print.

# Asthma's clotting shadow: a meta-analysis unveiling a thrombotic ticking time bomb

Kaiwen Zheng [1], Yuling Zhao [2], Jiayi Li [2], Xing Chen [2]

Affiliations Expand

- PMID: 41388885

- DOI: 10.1080/02770903.2025.2603325

Abstract

Objective: To systematically evaluate the association between asthma and the risk of venous thromboembolism (VTE), including pulmonary embolism (PE) and deep vein thrombosis (DVT).

Data sources: PubMed, Embase, Web of Science, and the Cochrane Library were searched for relevant studies published up to May 2025.

Study selection: Observational studies (cohort, case-control, and cross-sectional) reporting the association between asthma and VTE, PE, or DVT with available odds ratios (ORs) or hazard ratios and 95% confidence intervals (or data to calculate them) were included.

Results: The meta-analysis revealed a significant association between asthma and increased risk of VTE. Patients with asthma had a 2.41-fold higher odds of PE (OR =

2.41, 95% CI: 1.77-3.27), 1.56-fold higher odds of DVT (OR = 1.56, 95% CI: 1.49-1.63), and 1.61-fold higher odds of overall VTE (OR = 1.61, 95%: CI 1.45-1.77). Cohort studies showed the strongest association (OR = 4.21, 95% CI 2.56-6.92). Subgroup analysis by region indicated the highest risk in Asia (OR =3.19, 95% CI: 2.06-4.96), followed by America (OR = 2.24, 95% CI: 1.55-3.24) and Europe (OR = 1.64, 95% CI: 1.49-1.81).

Conclusion: Asthma is significantly associated with an elevated risk of PE, DVT, and VTE, with particularly strong associations observed in cohort studies and Asian populations. These findings highlight the need for further research into underlying mechanisms and whether optimized asthma management can reduce thrombotic risk.

Keywords: Asthma; deep vein thrombosis; meta-analysis; pulmonary embolism; risk factors; venous thromboembolism.



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Eur Respir J

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. 2025 Dec 18;66(6):2501327.

doi: 10.1183/13993003.01327-2025. Print 2025 Dec.

# Pregnancy, asthma and exacerbations: a population-based cohort

Bohee Lee [1], Ernie Wong [1], Tricia Tan [2], Hitasha Rupani [3], Chloe I Bloom [4]

Affiliations Expand

- PMID: 40876965
- PMCID: PMC12713386
- DOI: 10.1183/13993003.01327-2025

**Abstract**

**Background: Asthma exacerbations during pregnancy are associated with adverse maternal and perinatal outcomes. Identifying modifiable risk factors is essential for improving health outcomes. We aimed to describe exacerbation patterns during pregnancy and identify exacerbation risk factors, particularly modifiable risk factors such as inhaled corticosteroid use.**

**Methods: This was a cohort study using UK primary care and hospital data (2004-2020) to identify pregnant women with asthma. Exacerbations were defined as a short course of oral corticosteroids, emergency department visit or unscheduled hospital admission. Multivariable logistic regression was used to assess associations between maternal characteristics and exacerbations (primary outcome) and inhaled corticosteroid use (secondary outcome).**

**Results: Among 40 196 pregnant women with asthma, total exacerbations declined by ~30% during pregnancy. However, exacerbations associated with hospital admission increased by 30-45% during the second and third trimesters, declining abruptly after delivery. Inhaled corticosteroid prescriptions were reduced in 31% of women during pregnancy. Decreased inhaled corticosteroid use was associated with suboptimal asthma control pre-pregnancy, age, ethnicity and smoking. The strongest exacerbation risk factors were a history of exacerbations (adjusted OR 4.09, 95% CI 3.81-4.39), reduced inhaled corticosteroid use during pregnancy (adjusted OR 2.29, 95% CI 2.12-2.47) and ≥4 prescriptions per year for inhaled corticosteroids plus another preventer before pregnancy (adjusted odds ratio 2.11, 95% CI 1.87-2.37). Additional risk factors included blood eosinophilia, smoking and obesity.**

**Conclusions: Despite fewer total exacerbations, exacerbations associated with a hospital admission increased during pregnancy. One third of women reduced inhaled corticosteroid use during pregnancy, yet this was the second largest exacerbation risk factor and is completely modifiable. Other major risk factors were type 2 inflammation and another modifiable risk factor, suboptimal asthma control pre-pregnancy.**



**Conflict of interest statement**

**Conflict of interest: B. Lee reports support for the present study and grants from Asthma+Lung UK. E. Wong reports consultancy fees from AstraZeneca; payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca and Chiesi; and support for attending meetings from GSK. T. Tan reports grants from UK National Institute for Health Research, Diabetes UK and Leadiant Pharmaceutical; consultancy fees from Zihipp Ltd; payment or honoraria for lectures, presentations, manuscript writing or educational events and support for attending travel from the American Diabetes Association; participation on a data safety monitoring board or advisory board with STRIVE Trial and AstraZeneca; leadership roles with Society for Endocrinology and European Association for Study of Diabetes; stock (or stock options) with Zihipp Ltd; and is the Director of BTKJ Enterprise Ltd (consultancy company). H. Rupani reports grants from GSK; payment or honoraria for lectures, presentations, manuscript writing or educational events from GSK, AstraZeneca and Sanofi; support for attending meetings from**

AstraZeneca and Sanofi; participation on a data safety monitoring board or advisory board with Aretia; and leadership roles with the European Respiratory Society (E-learning Resources Director) and the British Thoracic Society (council member). C.I. Bloom reports support for the present study from Asthma+Lung UK; grants from the National Institute for Health Research, Medical Research Council and European Respiratory Society; consultancy fees from AstraZeneca; and leadership roles with the British Thoracic Society and UK Primary Care Respiratory Society.

Comment in

- Decreasing inhaled corticosteroids in pregnancy increases the risk for asthma exacerbations: time for new approaches to solve a decades-old problem.

Murphy VE.Eur Respir J. 2025 Dec 18;66(6):2501979. doi: 10.1183/13993003.01979-2025. Print 2025 Dec.PMID: 41412710 No abstract available.

- 36 references
- 6 figures

Supplementary info

MeSH terms, SubstancesExpand

Full text links


# "rhinitis"[MeSH Terms] OR rhinitis[Text Word]

# "cough"[MeSH Terms] OR cough[Text Word]

1
JMIR Pediatr Parent
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. 2025 Dec 19:8:e82887.
doi: 10.2196/82887.
Analysis of Cough Factors and Quality of Life Score Among Children With Protracted Bacterial Bronchitis: Cross-Sectional Study
Haonan Ning [1], Wenyu Zheng [2], Jinghui Zhang [3], Fuhai Li [3], Nana Qiao [3]
Affiliations Expand
- PMID: 41418293
- PMCID: PMC12716831

- DOI: 10.2196/82887

**Abstract**

**Background: Protracted bacterial bronchitis (PBB) is a leading cause of chronic wet cough in children. Misdiagnosis and inadequate treatment may lead to the progression of diseases.**

**Objective: The objective of this paper was to analyze factors influencing the cough duration prior to the diagnosis and assess health-related quality of life in children with PBB.**

**Methods: Children diagnosed with PBB in the Qilu Hospital of Shandong University from November 2021 to November 2022 were included in this study. Clinical data were collected; parents completed the Parent-Proxy Cough-Specific Quality of Life (PC-QOL) questionnaire and the simplified Cough Symptom Score. Children aged 6 years and older completed the Leicester Cough Questionnaire in Mandarin-Chinese (LCQ-MC).**

**Results: As of November 2022, we enrolled 88 patients. Place of residence (B=9.35, 95% CI 0.36-18.35; P=.04) and rest status during the coughing episode (B=7.87, 95% CI 0.36-15.38; P=.04) were significantly associated with cough duration prior to the diagnosis. PC-QOL scores (physical: mean 3.10, SD 1.36; psychological: mean 3.32, SD 1.57; social: mean 3.67, SD 1.53; total: mean 10.09, SD 4.21) showed physical-social differences (t174=-2.58, P=.01). PC-QOL posttreatment scores were significantly higher than pretreatment scores (physical: t18=-6.05, P<.001; psychological: t18=-4.42, P<.001; social: t18=-4.79, P<.001; total: t18=-5.25, P<.001). However, the scores of each PC-QOL domain were significantly lower than those of the LCQ-MC (physical: t34=8.31, P<.001; psychological: t34=6.58, P<.001; social: t34=5.09, P<.001; total: t34=8.11, P<.001).**

**Conclusions: Place of residence and rest status during the coughing episode were significantly associated with cough duration prior to the diagnosis. Furthermore, PBB significantly reduces quality of life in physical, psychological, and social aspects.**

**Keywords: LCQ-MC; Leicester Cough Questionnaire in Mandarin-Chinese; PC-QOL; Parent-Proxy Cough-Specific Quality of Life; duration of cough; protracted bacterial bronchitis; sCSS; simplified Cough Symptom Score.**



**Conflict of interest statement**

**Conflicts of Interest: None declared.**

- 67 references

**Full text links**



2

JAMA

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. 2025 Dec 19.

doi: 10.1001/jama.2025.20026. Online ahead of print.

GLP-1 Drugs Linked With Chronic Cough

Samantha Anderer

- PMID: 41417480

- DOI: 10.1001/jama.2025.20026

*No abstract available*

Full text links

Proceed to details

Cite

3

Randomized Controlled Trial

Support Care Cancer

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. 2025 Dec 19;34(1):47.

doi: 10.1007/s00520-025-10278-2.

# Effects of behavioural speech therapy on postoperative cough and cough-related quality of life of lung cancer patients undergoing thoracoscopic surgery: A prospective randomized controlled study

Yue Jin [1,2], Xinyu Song [3,4,5], Caixia Liu [5,6,7], Zuyang Xi [8], Hanyu Zhang [1,2], Caie Chen [8], Zhigang Hu [9,10,11], Yufeng Tian [12]

Affiliations Expand

- PMID: 41417244

- DOI: 10.1007/s00520-025-10278-2

Abstract

Background: Behavioural speech therapy (BST) is a non-drug treatment for chronic cough. This study aimed to evaluate the impact of behavioural speech therapy based on the transtheoretical model on chronic cough and quality of life in lung cancer patients undergoing thoracoscopic surgery.

Methods: In this prospective randomized controlled trial, patients were randomly assigned 1:1 to receive either the BST intervention or standard care every 2 weeks for 3 months after surgery. The primary outcomes included the prevalence and severity of chronic cough; the secondary outcomes included cough-related quality of life, anxiety and depression. Data were collected at admission (T0), 1 month post-surgery (T1), and 3 months post-surgery (T2). A mixed-effects model was used to assess changes across time points and outcomes. The study was registered with the Chinese Clinical Trial Registration (ChiCTR2400084313; May 14, 2024).

Results: Between July and September 2024, we enrolled 112 patients for baseline assessment (57 patients in the intervention group and 55 patients in the control group). The prevalence of chronic cough was significantly lower in the intervention group than in the control group (21.1% vs. 43.6%, adjusted RR = 0.35, 95% CI: 0.19-0.64; P < 0.05). The mean difference in cough score was 4.11 (95% CI: -5.33 to -2.89; P < 0.001) lower in the BST group than in the control group from baseline to T2. The cough-related health scores of the intervention group were better than those of the control group in all dimensions after 1 month and 3 months. The mean differences in anxiety and depression in the BST group were greater than those in the control group from baseline to T2.

Conclusions: BST effectively decreases the prevalence of chronic cough, alleviates cough symptoms and improves quality of life.

Keywords: Behavioural speech therapy; Cough; Lung cancer; Quality of life; Transtheoretical model.

Conflict of interest statement
Declarations. Ethics Approval and Published Consent: This study followed the Declaration of Helsinki and was approved by the Medical Ethics Committee of Yichang Central People's Hospital (Ethics Approval No. 2024–140-03), and was registered on May 14 2024 in China Clinical Trial Registration Center with the registration number of ChiCTR2400084313. All participants in the study provided informed consent and had the right to withdraw from the study at any time for any reason. Furthermore, they were assured that the survey would be used only for research purposes. Data Access, Responsibility, Analysis and Sharing Statement: Yue Jin and Yufeng Tian had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. The data that support the findings of this study are available from the corresponding author upon reasonable request. Competing interests: The authors declare no competing interests.
- 41 references

Supplementary info
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Case Reports

Breathe (Sheff)
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. 2025 Dec 16;21(4):250273.
doi: 10.1183/20734735.0273-2025. eCollection 2025 Oct.
# A 26-year-old with persistent cough of unclear origin
Tiantian Zhang [1 2], Yidan Sun [1 2], Guochao Shi [1 2], Xiaoyan Chen [3]
Affiliations Expand
- PMID: 41409628
- PMCID: PMC12706590
- DOI: 10.1183/20734735.0273-2025
Abstract
E-cigarettes may cause pulmonary Langerhans cell histiocytosis. https://bit.ly/4nDDmM2.

Conflict of interest statement
Conflict of interest: The authors have nothing to disclose.
- 16 references
- 4 figures

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J Eur Acad Dermatol Venereol
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. 2025 Dec 17.
doi: 10.1111/jdv.70266. Online ahead of print.

# Nemolizumab in prurigo nodularis up to 100 weeks: OLYMPIA LTE interim analysis

Franz J Legat [1], Shawn G Kwatra [2 3], Adam Reich [4], Serge Boulinguez [5], Athanasios Tsianakas [6], Maxwell Sauder [7 8], Sebastien Barbarot [9], Jacek C Szepietowski [10 11], Curdin Conrad [12], Andrew E Pink [13 14], Elke Weisshaar [15], Laurent Misery [16], Martin Metz [17], Vivian T Laquer [18], Raja K Sivamani [19], Gil Yosipovitch [20], Diamant Thaçi [21], Lone Skov [22], Xiaoxiao Chen [23], Aliene Noda [24], Zarif K Jabbar-Lopez [24], Christophe Piketty [24], Sonja Ständer [25]
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- PMID: 41405008
- DOI: 10.1111/jdv.70266

Abstract
Background: Prurigo nodularis (PN) is a neuroimmune skin disease characterized by the presence of chronic itch (≥6 weeks) and multiple white-pink papules, nodules and/or plaques.
Objectives: The OLYMPIA long-term extension (OLYMPIA-LTE) trial evaluates long-term, over 184 weeks, safety and efficacy of nemolizumab in adults with moderate-to-severe PN.
Methods: Adults with moderate-to-severe PN, who completed phase 2b (NCT03181503) and phase 3 (OLYMPIA 1&2) lead-in trials, were eligible for the ongoing OLYMPIA-LTE trial. Patients receiving nemolizumab monotherapy (continuous-nemolizumab) during lead-in trials continued their regimen, while those on placebo (nemolizumab-naïve) initiated nemolizumab monotherapy. The primary endpoint was long-term safety. Efficacy assessments included the proportion of patients achieving a ≥4-point improvement from baseline Peak Pruritus Numerical Rating Scale (PP-NRS4), Sleep Disturbance Numerical Rating Scale (SD-NRS4) and Dermatology Life Quality Index (DLQI4) scores, Investigator's Global Assessment (IGA) score 0/1 (clear/almost clear), and 75% healed pruriginous lesions (Prurigo Activity and Severity score item-5b). Observed cases up to week 100, regardless of rescue medication, are presented, without imputation of missing data.
Results: At interim analysis data cut-off (21 July 2024), 290/508 (57%) patients completed week 100 (median exposure: 839.5 days). Treatment-emergent adverse events (TEAEs) occurred in 89% of patients (452/508; exposure time-adjusted incidence rate: 197.5/100 patient-years) and were mostly mild/moderate (26%/52%) in severity. TEAEs occurring in ≥5% of patients at any given year were COVID-19 (28%), nasopharyngitis (20%), upper respiratory tract infection (13%), neurodermatitis (worsening of PN; 13%), back pain (9%), headache (9%), arthralgia (9%), cough (8%), hypertension (8%) and nummular eczema (8%). At week 100, among evaluable patients treated with nemolizumab, 92% achieved PP-NRS4, 86%

SD-NRS4, 91% DLQI4, 74% IGA 0/1 and 84% observed healing of >75% of pruriginous lesions.
Conclusions: Long-term treatment with nemolizumab was well tolerated and led to disease control with clinically meaningful improvements in itch intensity, pruriginous lesions and quality of life.
Clinical trial registration no: NCT04204616, RD.06.SPR.202699 and 2019-004294-13 (EudraCT Number).
Keywords: IL-31; chronic prurigo; itch; nemolizumab; prurigo nodularis; pruritus.
Plain language summary
Prurigo nodularis (PN) is a long-lasting skin condition that causes intense itching and hard bumps or nodules on the skin. It can severely affect sleep and overall quality of life. This disease often requires long-term care. This trial was conducted across multiple countries and included adults who had moderate-to-severe PN. The main goal was to understand how safe and effective a medicine called nemolizumab is when used over a long period. Nemolizumab works by blocking a signal in the body that causes itching and inflammation. Adults who had already taken part in earlier nemolizumab studies could join. Some continued taking nemolizumab, whereas others who had not received it before started treatment with it. The trial looked at side effects, changes in itch intensity, sleep quality, skin appearance and overall quality of life. At data cut-off (July 2024), 290 out of 508 patients had completed 100 weeks of treatment. Most of the side effects were mild or moderate. The most common side effects were COVID-19, colds, upper respiratory infections, worsening of PN, back pain, headache, joint pain, cough, high blood pressure and nummular eczema. After 100 weeks of treatment, most patients reported a substantial improvement in their itch, sleep and quality of life. Many also had much clearer skin, with more than 75% of their skin bumps/nodules healing. In summary, long-term treatment with nemolizumab was generally well tolerated and helped patients achieve better control of their disease, with meaningful improvements in itch, skin appearance and daily life.


- 23 references

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. 2025 Dec 18;66(6):2500745.
doi: 10.1183/13993003.00745-2025. Print 2025 Dec.
European Respiratory Society and American Thoracic Society guidelines for the diagnosis of primary ciliary dyskinesia

Amelia Shoemark [1 2], Myrofora Goutaki [3 4], BreAnna Kinghorn [5 6 7], Cristina Ardura-Garcia [8], Noelia Baz-Redón [9 10], Mark Chilvers [11], Stephanie D Davis [12], Jana De Brandt [13 14], Sharon Dell [15], Raja Dhar [16], Lucy Dixon [17], Thomas Ferkol [12], Claire Hogg [18], Marie Legendre [19 20], Margaret Leigh [21], Jane S Lucas [22 23], Michele Manion [21], Nisreen Rumman [24 25], Ingrid Toews [26], Valerie Labonte [26 27], Wallace B Wee [28], Panayiotis Kouis [29 7], Amjad Horani [30 31 2]
Affiliations Expand
- PMID: 41005984

- DOI: 10.1183/13993003.00745-2025
Abstract
Primary ciliary dyskinesia (PCD) is caused by pathogenetic variants in more than 55 genes. PCD is associated with early-onset chronic wet cough and rhinosinusitis, laterality defects, middle ear disease and reduced fertility. The clinical presentation is heterogeneous, and diagnosis often relies on multiple tests. The American Thoracic Society (ATS) and European Respiratory Society (ERS) have previously developed separate guidelines for diagnosis. Here, ERS and ATS members systematically reviewed the literature on diagnostic tools used in practice and developed unified evidence-based guidelines for PCD diagnosis using Grading of Recommendations, Assessment, Development and Evaluations methodology, and a transparent process of decision-making using evidence-to-decision frameworks. The Task Force panel formulated three PICO (Patients, Intervention, Comparison, Outcome) questions and three narrative questions. The accuracies of high-speed video microscopy, immunofluorescence and nasal nitric oxide were compared to a reference test of transmission electron microscopy and/or genetics. The panel gives a strong recommendation for use of high-speed video microscopy, immunofluorescence and nasal nitric oxide as adjunct tests to transmission electron microscopy and/or genetics for PCD diagnosis. However, no adjunct test is suitable as a standalone test to diagnose PCD and no single adjunct or reference test is suitable to exclude PCD. Pursuing a genetic diagnosis is encouraged owing to the implications for management. The panel emphasises that tests should meet a minimum standard and proposes that patients are evaluated at a referral centre experienced in diagnosis. The pre-test probability based on symptoms should be considered when interpreting results.

Conflict of interest statement
Conflict of interest: A. Shoemark reports grants from AstraZeneca and Lifearc; consultancy fees from Spirovant, Translate Bio and ReCode Therapeutics; payment or honoraria for lectures, presentations, manuscript writing or educational events from Translate Bio, Ethris and Insmed; a leadership role as Chair BEAT-PCD ERS CRC; and involvement in European Respiratory Society Clinical Research Collaborations (EMBARC and AMR Lung). M. Goutaki reports grants from the Swiss National Science Foundation and Swiss Lung Association; support for attending meetings from the European Respiratory Society; and a leadership role as co-chair of the BEAT-PCD clinical research collaboration. B. Kinghorn reports grants from PCD Foundation (Early Career Investigator Award) and the National Institutes of Health. S.D. Davis reports grants from National Institutes of Health (NIH) and ReCode Therapeutics, and participation on a data safety monitoring board or advisory board with PCD Medical and Scientific Advisory Council. S. Dell reports grants from a BCCHRI establishment award and NIH (U54HL096458); consultancy

**fees from Sanofi and Regeneron Pharmaceuticals Inc.; payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca Canada Inc., Sanofi Aventis Canada and Sanofi Genzyme Corporation; participation on a data safety monitoring board or advisory board with Sanofi Aventis Canada Inc.; a leadership role with Annals of the American Thoracic Society (Deputy Editor); and funding paid to her institution for research from Boehringer Ingelheim Canada Ltd, Sanofi Aventis Canada Inc., Vertex Pharmaceuticals, Merck Research Laboratories and GlaxoSmithKline (UK) Ltd. R. Dhar reports payment or honoraria for lectures, presentations, manuscript writing or educational events from Cipla, Glenmark, Zuventus, Lupin, GSK, AstraZeneca and Sanofi; and participation on a data safety monitoring board or advisory board with Glenmark, Lupin, Sun Pharma and Cipla. L. Dixon reports a leadership role as Vice Chair of PCD Support UK. T. Ferkol reports support for the present manuscript from NIH (HL096458, TR003860, TR3860); grants from NIH (AI146999, HL125241, U01HL172658, HG009650), Parion Sciences and ReCode Therapeutics; consultancy fees from TransBio and Arrowhead Pharmaceuticals; and participation on a data safety monitoring board or advisory board with ReCode Therapeutics. C. Hogg reports consultancy fees from ReCode Therapeutics and leadership role with BEAT-PCD management committee. M. Leigh reports a leadership role with the PCD Foundation (member of Board of Directors; unpaid). J.S. Lucas reports grants from AAIR Charity, LifeArc, Medical Research Council, National Institute for Health Research and Great Ormond Street Hospital Children's Charity; and is co-leader of LifeArc Translational Rare Respiratory Disease Centre, work package lead for BEAT-PCD ERS CRC and an AAIR Charity trustee. M. Manion reports leadership role with the US PCD Foundation. I. Toews works as an ERS methodologist. V. Labonte works as an ERS methodologist. W.B. Wee reports payment or honoraria for lectures, presentations, manuscript writing or educational events from PCD On The Move and support for attending meetings from PCD Foundation. A. Horani reports support for the present manuscript from R01HL173490, and leadership roles with the PCD Foundation and PCD Research. The remaining authors have no potential conflicts of interest to disclose.**

- **Cited by 1 article**

**Supplementary info**
**Publication types, MeSH terms, Substances**

# "bronchiectasis"[MeSH Terms] OR bronchiectasis[Text Word]

**1**

**Review**

**Cureus**

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. 2025 Dec 16;17(12):e99352.

doi: 10.7759/cureus.99352. eCollection 2025 Dec.

# Woakes' Syndrome: A Systematic Review of Reported Cases

Badrun Shurovi [1], Benjamin Samra [2]

Affiliations Expand

- PMID: 41416018

- PMCID: PMC12709414

- DOI: 10.7759/cureus.99352

## Abstract

Woakes' syndrome is a rare form of chronic rhinosinusitis with nasal polyps (CRSwNP) characterized by the progressive expansion of the nasal framework. We aimed to systematically review the literature on Woakes' syndrome to characterize its clinical features, comorbidities, management strategies, and outcomes. A literature search was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A systematic search of several databases (PubMed, Embase, Cochrane Library, etc.) was conducted for all reports of Woakes' syndrome. All study types (case reports, case series) were included if they provided clinical data on Woakes' syndrome. Non-English-language papers were excluded. Data on patient demographics, comorbidities (e.g., asthma, aspirin-exacerbated respiratory disease), treatments, and outcomes were extracted and synthesized descriptively. Twenty-three studies met the inclusion criteria, comprising 39 unique patients (mean age 39.5 years; range 5-81; 65% male). Both paediatric and adult-onset cases were identified. Common comorbidities included Samter's triad (seven cases) and bronchiectasis or sinobronchial disease (two cases). All patients underwent surgical treatment, most commonly functional endoscopic sinus surgery, with adjunctive procedures including digital nasal bone compression (six cases) and formal rhinoplasty or septorhinoplasty (seven cases). Pre- and postoperative steroid therapy was variably reported with most prescribed topical or systemic corticosteroids. Follow-up data were inconsistently reported; where available, the mean follow-up was approximately 12.5 months, with seven documented recurrences (six despite nasal steroid therapy). Woakes' syndrome is an extremely rare but distinct clinical entity in rhinology, representing an aggressive phenotype of CRSwNP that causes facial deformity. Both paediatric and adult-onset cases occur, frequently associated with underlying conditions such as aspirin-exacerbated respiratory disease in adults. Management requires a combination of aggressive surgical polyp removal and prolonged treatment with steroids to maintain remission. Long-term disease control remains challenging, and emerging treatments such as biological therapies to target chronic inflammation may provide benefit in the most refractory cases.

Keywords: crswnp; nasal deformity; nasal polyps; systematic review; woakes' syndrome.

Conflict of interest statement

Conflicts of interest: In compliance with the ICMJE uniform disclosure form, all authors declare the following: Payment/services info: All authors have declared that no financial support was received from any organization for the submitted work. Financial relationships: All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. Other relationships: All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

- 29 references
- 1 figure

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J Infect Dis

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. 2025 Dec 17:jiaf626.

doi: 10.1093/infdis/jiaf626. Online ahead of print.

# Microbiota, Mucus, and Modulators: CF Infection Pathogenesis in the CFTR Modulator Era

Christina S Thornton [1], Drake C Bouzek [2], Lindsay J Caverly [3]

Affiliations Expand

- PMID: 41406001

- DOI: 10.1093/infdis/jiaf626

Abstract

**Cystic fibrosis (CF) lung disease is a result of defective CFTR-mediated ion transport, producing dehydrated mucus, impaired mucociliary clearance and an opportune environment for chronic airway infection. CF airway infections are polymicrobial airway ecosystems often dominated by CF pathogens such as Pseudomonas aeruginosa, Staphylococcus aureus, Burkholderia, Stenotrophomonas, Achromobacter, and nontuberculous mycobacteria that drive cycles of infection, inflammation, and bronchiectasis. Highly effective CFTR modulators, including elexacaftor/tezacaftor/ivacaftor, improve airway hydration and mucociliary clearance and reduce pathogen CF acquisition and density. However, even with CFTR modulator treatment, most individuals with established infection remain chronically infected, and long-term impacts of CFTR modulators on airway infection dynamics and associated clinical outcomes remain unclear. In this review, we address key gaps in understanding chronic infection in the CFTR modulator era, including changes in infection-related lung disease pathogenesis, airway-gut microbiome interactions, approaches to airway infection sampling, and implications for infection management.**

**Keywords: CFTR modulators; Cystic fibrosis; airway microbiome; chronic airway infection; gastrointestinal microbiome.**



**3**

**Editorial**

**Eur Respir J**

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**. 2025 Dec 18;66(6):2501309.**

**doi: 10.1183/13993003.01309-2025. Print 2025 Dec.**

**Emerging therapies in bronchiectasis**

Oriol Sibila [1 2], Lidia Perea [2], Stefano Aliberti [3 4]

Affiliations Expand

- PMID: 41198393

- DOI: 10.1183/13993003.01309-2025

*No abstract available*

Conflict of interest statement

Conflict of interest: O. Sibila reports consultancy fees from INSMED and Boehringer Ingelheim. L. Perea reports no potential conflicts of interest. S. Aliberti is a section editor of the European Respiratory Journal and reports grants from GSK, consultancy fees from INSMED, Zambon, AstraZeneca, Menarini, CSL Behring GmbH, Pfizer, Fondazione Internazionale Menarini, Moderna Italy, Moderna TX, Boehringer Ingelheim, Chiesi farmaceutica Spa, MSD Italia S.r.l., Vertex Pharmaceuticals, BRAHMS GMBH, Physioassist SAS, AN2 Therapeutics, GlaxoSmithKline Spa and Verona Pharma, payment or honoraria for lectures, presentations, manuscript writing or educational events from GlaxoSmithKline Spa, Fondazione Internazionale Menarini, INSMED, Boehringer Ingelheim, Zambon and Vertex Pharmaceuticals, and participation on a data safety monitoring board or advisory board with INSMED, AstraZeneca, MSD and Verona Pharma.

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. 2025 Dec 18;66(6):2501126.

doi: 10.1183/13993003.01126-2025. Print 2025 Dec.

# European Respiratory Society clinical practice guideline for the management of adult bronchiectasis

James D Chalmers [1 2], Charles S Haworth [3], Patrick Flume [4], Merete B Long [5], Pierre-Régis Burgel [6], Katerina Dimakou [7], Francesco Blasi [8 9], Beatriz Herrero-Cortina [10 11], Raja Dhar [12], Sanjay H Chotirmall [13 14], Felix C Ringshausen [15 16 17], Josje Altenburg [18], Lucy Morgan [19], Mattia Nigro [20 21], Megan L Crichton [5], Chayenne Van Meel [22], Oriol Sibila [23], Alan Timothy [24], Eliza Kompatsiari [24], Tanja Hedberg [24], Thomas Vandendriessche [22], Pamela J McShane [25], Thomy Tonia [26], Kevin Winthrop [27], Michael R Loebinger [28], Natalie Lorent [29 30], Pieter Goeminne [31], Michal Shteinberg [32 33], Eva Polverino [34], Stefano Aliberti [21 22 2]

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- PMID: 41016738

- DOI: 10.1183/13993003.01126-2025

## Abstract

**Background: Bronchiectasis is a common lung condition associated with wide range of infectious, immunological, autoimmune, allergic and genetic conditions. Exacerbations and daily symptoms have the largest impact on patients and healthcare systems, and they are the key focus of treatments. Current practice is heterogeneous globally, and bronchiectasis has historically been a neglected disease. Here, we present evidence-based international guidelines for the management of adults with bronchiectasis.**

**Methods: A European Respiratory Society (ERS) Task Force, comprising global experts, a methodologist and patient representatives, developed clinical practice guidelines in accordance with ERS methodology and the GRADE (Grading of Recommendations, Assessment, Development and Evaluations) approach. Systematic literature searches, data extraction and meta-analysis were performed to generate evidence tables, and recommendations were formulated using the evidence-to-decision framework. A total of eight PICO (Patients, Intervention, Comparator, Outcomes) questions and three narrative questions were developed.**

**Recommendations: The Task Force recommendations include strong recommendations in favour of airway clearance techniques for most patients with bronchiectasis, and pulmonary rehabilitation for those with impaired exercise capacity. We issue a strong recommendation for the use of long-term macrolide treatment for patients at high risk of exacerbations and a strong recommendation in favour of long-term inhaled antibiotics in patients with chronic *Pseudomonas aeruginosa* infection at high risk of exacerbation. Conditional recommendations support the use of eradication treatment or mucoactive drugs in specific circumstances. We suggest not to routinely use long-term oral, non-macrolide antibiotic treatment or inhaled corticosteroids. Additional guidance is also provided on testing for underlying causes, managing exacerbations and managing the deteriorating patient.**

**Conclusion: The ERS bronchiectasis guidelines provide an evidence-based framework for optimal management of adults with bronchiectasis and serve as a benchmark for evaluating the quality of care.**



**Conflict of interest statement**

**Conflict of interest: J.D. Chalmers (co-chair) declares grants and personal fees from Antabio, AstraZeneca, Boehringer Ingelheim, CSL Behring, Genentech, Gilead Sciences, GlaxoSmithKline, Grifols, Insmed, Novartis, Pfizer, Trudell and Zambon. C.S. Haworth declares grants or personal fees from 30 Technology, AstraZeneca, BiomX, Chiesi, Insmed, Lifearc, Pneumagen, Vertex and Zambon. P. Flume declares grants from Aceragen. Boehringer Ingelheim, Insmed, National Institutes of Health, Renovion, Sanofi, Synchrony, Verona, BiomX, COPD Foundation, Inogen and Zambon. P-R. Burgel declares grants and personal fees from AstraZeneca, Chiesi, GlaxoSmithKline, Insmed, MSD, Novartis, Pfizer, Sanofi, Vertex, Viatris and Zambon. F. Blasi declares grants and personal fees from Chiesi, GlaxoSmithKline, Grifols, Insmed, Menarini, OM Pharma, Pfizer, Sanofi, Vertex, Viatris and Zambon. R. Dhar declares grants and personal fees from Abbott, Cipla, Glenmark, GlaxoSmithKline, Lupin, Sanofi, Thorasys and Zuventus. S.H. Chotirmall declares grants or personal fees from Boehringer Ingelheim, Chiesi, Inovio and Pneumagen. F.C. Ringshausen declares grants and personal fees from i!DE Werbeagentur, German Center for Infection Research (DZIF), German Center for Lung Research (DZL), German Cystic Fibrosis Patient Advisory Group (Mukoviszidose e.V.), German Kartagener Syndrome and Primary Ciliary Dyskinesia Patient Advisory Group, Grifols, Helmholtz Center for Infection Research, Innovative Medicines Initiative (IMI; EU/EFPIA) and the iABC Consortium, Boehringer Ingelheim, Chiesi, Insmed, Mukoviszidose Institute, Novartis, Pari, Parion Sciences, Sanofi, Vertex and Zambon. L. Morgan declares grants or personal fees from AstraZeneca, GlaxoSmithKline, Insmed and Zambon. M.L. Crichton declares grants and personal fees from AstraZeneca, Boxer Capital LLC, Chiesi, Grifols, Insmed, Janssen, Lifearc, Novartis and Zambon. A. Timothy declares membership of the European Lung Foundation/EMBARC Patient Advisory Group. E. Kompatsiari declares membership of the European Lung Foundation/EMBARC Patient Advisory Group. T. Hedberg declares membership of the European Lung Foundation/EMBARC Patient Advisory Group. P.J. McShane declares personal fees from Boehringer Ingelheim and Insmed. T. Tonia acts as ERS methodologist. K. Winthrop declares grants and personal fees from Insmed and Zambon. M.R. Loebinger declares personal fees from 30 Technology, AN2 Therapeutics, Armata, AstraZeneca, Boehringer Ingelheim, Chiesi, Electromed, Ethris, Insmed, Mannkind, Parion, Recode and Zambon. N. Lorent declares personal fees from GlaxoSmithKline and Insmed. P. Goeminne declares personal fees from Chiesi, GlaxoSmithKline and MDF. M. Shteinberg declares grants or personal fees from AstraZeneca, Boehringer Ingelheim, Bonus Biogroup, Dexxon, GlaxoSmithKline, Kamada, Rafa, Sanofi and Synchrony Medical. E. Polverino declares grants and/or personal fees from Chiesi, Insmed, Grifols, Pari, CSL Behring, Moderna, Pfizer, Shionogi, Shire, Teva, Vertex and Zambon. S. Aliberti declares grants or personal fees from AstraZeneca, Brahms, Chiesi, GlaxoSmithKline, Insmed, Menarini and PhysioAssist. The remaining authors have no potential conflicts of interest to disclose.**

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**. 2025 Dec 18;66(6):2500745.**

**doi: 10.1183/13993003.00745-2025. Print 2025 Dec.**

# European Respiratory Society and American Thoracic Society guidelines for the diagnosis of primary ciliary dyskinesia

Amelia Shoemark [1 2], Myrofora Goutaki [3 4], BreAnna Kinghorn [5 6 7], Cristina Ardura-Garcia [8], Noelia Baz-Redón [9 10], Mark Chilvers [11], Stephanie D Davis [12], Jana De Brandt [13 14], Sharon Dell [15], Raja Dhar [16], Lucy Dixon [17], Thomas Ferkol [12], Claire Hogg [18], Marie Legendre [19 20], Margaret Leigh [21], Jane S Lucas [22 23], Michele Manion [21], Nisreen Rumman [24 25], Ingrid Toews [26], Valerie Labonte [26 27], Wallace B Wee [28], Panayiotis Kouis [29 7], Amjad Horani [30 31 2]

**Affiliations Expand**

- **PMID: 41005984**

- **DOI: 10.1183/13993003.00745-2025**

## Abstract

**Primary ciliary dyskinesia (PCD) is caused by pathogenetic variants in more than 55 genes. PCD is associated with early-onset chronic wet cough and rhinosinusitis, laterality defects, middle ear disease and reduced fertility. The clinical presentation is heterogeneous, and diagnosis often relies on multiple tests. The American Thoracic Society (ATS) and European Respiratory Society (ERS) have previously**

**developed separate guidelines for diagnosis. Here, ERS and ATS members systematically reviewed the literature on diagnostic tools used in practice and developed unified evidence-based guidelines for PCD diagnosis using Grading of Recommendations, Assessment, Development and Evaluations methodology, and a transparent process of decision-making using evidence-to-decision frameworks. The Task Force panel formulated three PICO (Patients, Intervention, Comparison, Outcome) questions and three narrative questions. The accuracies of high-speed video microscopy, immunofluorescence and nasal nitric oxide were compared to a reference test of transmission electron microscopy and/or genetics. The panel gives a strong recommendation for use of high-speed video microscopy, immunofluorescence and nasal nitric oxide as adjunct tests to transmission electron microscopy and/or genetics for PCD diagnosis. However, no adjunct test is suitable as a standalone test to diagnose PCD and no single adjunct or reference test is suitable to exclude PCD. Pursuing a genetic diagnosis is encouraged owing to the implications for management. The panel emphasises that tests should meet a minimum standard and proposes that patients are evaluated at a referral centre experienced in diagnosis. The pre-test probability based on symptoms should be considered when interpreting results.**



**Conflict of interest statement**

**Conflict of interest: A. Shoemark reports grants from AstraZeneca and Lifearc; consultancy fees from Spirovant, Translate Bio and ReCode Therapeutics; payment or honoraria for lectures, presentations, manuscript writing or educational events from Translate Bio, Ethris and Insmed; a leadership role as Chair BEAT-PCD ERS CRC; and involvement in European Respiratory Society Clinical Research Collaborations (EMBARC and AMR Lung). M. Goutaki reports grants from the Swiss National Science Foundation and Swiss Lung Association; support for attending meetings from the European Respiratory Society; and a leadership role as co-chair of the BEAT-PCD clinical research collaboration. B. Kinghorn reports grants from PCD Foundation (Early Career Investigator Award) and the National Institutes of Health. S.D. Davis reports grants from National Institutes of Health (NIH) and ReCode Therapeutics, and participation on a data safety monitoring board or advisory board with PCD Medical and Scientific Advisory Council. S. Dell reports grants from a BCCHRI establishment award and NIH (U54HL096458); consultancy fees from Sanofi and Regeneron Pharmaceuticals Inc.; payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca Canada Inc., Sanofi Aventis Canada and Sanofi Genzyme Corporation; participation on a data safety monitoring board or advisory board with Sanofi Aventis Canada Inc.; a leadership role with Annals of the American Thoracic Society (Deputy Editor); and funding paid to her institution for research from Boehringer Ingelheim Canada Ltd, Sanofi Aventis Canada Inc., Vertex Pharmaceuticals, Merck Research Laboratories and GlaxoSmithKline (UK) Ltd. R. Dhar reports payment or honoraria for lectures, presentations, manuscript writing or educational events from Cipla, Glenmark, Zuventus, Lupin, GSK, AstraZeneca and Sanofi; and participation on a data safety monitoring board or advisory board with Glenmark, Lupin, Sun Pharma and Cipla. L. Dixon reports a leadership role as Vice Chair of PCD Support UK. T. Ferkol reports support for the present manuscript from NIH (HL096458, TR003860, TR3860); grants from NIH (AI146999, HL125241, U01HL172658, HG009650), Parion**

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- **Cited by 1 article**

**Supplementary info**

**Publication types, MeSH terms, Substances**