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

1

Review

J Clin Med

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. 2026 Mar 9;15(5):2082.

doi: 10.3390/jcm15052082.

Cardiometabolic Comorbidities in COPD: Focus on Diabetes, GLP-1 Receptor Agonists, SGLT-2 Inhibitors and Antidiabetic Drugs

Maria Kallieri [1], Georgios Hillas [1], Stelios Loukides [1], Konstantinos Kostikas [2], Athena Gogali [2]

Affiliations Expand

- PMID: 41827498

- DOI: 10.3390/jcm15052082

Abstract

Background/Objectives: The coexistence of chronic obstructive pulmonary disease (COPD) and type 2 diabetes mellitus (T2D) poses significant clinical challenges due

to overlapping mechanisms of systemic inflammation, oxidative stress, hypoxia, and metabolic dysregulation. Patients with both conditions face higher risks of exacerbations, prolonged hospitalizations, cardiovascular events, and reduced quality of life. This review aims to summarize current evidence on the pathophysiological interplay between COPD and T2D and to evaluate the impact of lifestyle and pharmacologic interventions. Methods: A narrative review of the literature was conducted to evaluate the pathophysiological links between COPD and T2D, assess the effects of pharmacologic and lifestyle interventions, and highlight key gaps and priorities for future research, with an emphasis on integrated, evidence-based management for this high-risk population. Results: Lifestyle interventions, including smoking cessation and structured physical activity, remain foundational to management. Emerging evidence indicates that antidiabetic therapies, such as glucagon-like peptide-1 receptor agonists (GLP-1RAs) and sodium-glucose cotransporter-2 inhibitors (SGLT-2is), may confer additional pulmonary, metabolic, and cardiovascular benefits. These agents modulate systemic inflammation, oxidative stress, endothelial function, and insulin sensitivity, potentially reducing COPD exacerbations, improving lung function, and enhancing survival. Safety concerns, including glucocorticoid-induced hyperglycaemia and hypoxia-related metabolic complications, underscore the need for careful monitoring and individualized therapy COPD patients. Conclusions: Optimal care requires a multidisciplinary, patient-centred approach integrating pulmonology, endocrinology, primary care, nutrition, and rehabilitation, alongside shared decision-making and patient education. Despite promising findings, critical knowledge gaps remain. Large, well-designed randomized controlled trials and standardized definitions are needed to guide personalized therapeutic strategies.

Keywords: COPD; GLP-1RAs; SGLT-2 inhibitors; antidiabetic drugs; type 2 diabetes.

Supplementary info

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Cost Eff Resour Alloc

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. 2026 Mar 13.

doi: 10.1186/s12962-026-00738-9. Online ahead of print.

Cost-utility analysis of home mechanical ventilation compared to hospital settings in patients with chronic obstructive pulmonary disease

Ondřej Gajdoš [1], Martin Rožánek [2], Gleb Donin [2], Vojtěch Kamenský [2]

Affiliations Expand

- PMID: 41826975

- DOI: 10.1186/s12962-026-00738-9

No abstract available

Keywords: COPD; Cost-utility analysis; Markov model; Mechanical ventilation.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: This study was a model of previously published data, so no patient consent or institutional approval was required. The data were publicly available and are referenced in the manuscript. All methods were performed in accordance with relevant guidelines and regulations. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 63 references

Supplementary info

Grants and fundingExpand

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Cite

3

Chest

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. 2026 Mar 11:S0012-3692(26)00293-X.

doi: 10.1016/j.chest.2026.02.019. Online ahead of print.

Alcohol consumption and small airways obstruction

Jixuan Ma [1], Valentina Quintero Santofimio [2], James Potts [2], André F S Amaral [3]

Affiliations Expand

- PMID: 41825792

- DOI: 10.1016/j.chest.2026.02.019

No abstract available

Keywords: COPD; List: Alcohol; Small airway obstruction.

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Medicine (Baltimore)

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. 2026 Mar 13;105(11):e48031.

doi: 10.1097/MD.0000000000048031.

Genetic association and potential mediators between metabolic syndrome and chronic obstructive pulmonary disease: A Mendelian randomization study

Yunlong Zhang [1], Qun Zhang [2]

Affiliations Expand

- PMID: 41824853

- DOI: 10.1097/MD.0000000000048031

Abstract

Chronic obstructive pulmonary disease (COPD) is a common and serious health issue. Epidemiological studies indicate a significant link between metabolic syndrome (MetS) and its components with the risk of developing COPD. However, observational studies are prone to confounding and reverse causation, so the causal relationship and underlying mechanisms between MetS and COPD remain unclear. This study used 2-sample Mendelian randomization (MR) to examine the causal relationship between MetS, its components, and COPD. Univariable

Mendelian randomization identified causal links, followed by multivariable Mendelian randomization (MVMR) to assess regulatory effects of risk factors. A 2-step MR approach further explored mediation mechanisms. Genetic data were obtained from large genome-wide association study consortia of European populations. Genetically predicted MetS significantly increased COPD risk (OR = 1.53; 95% CI: 1.37-1.70; P = 6.63e-15). Among its components, waist circumference and hypertension were key contributors, while higher fasting glucose appeared protective. MVMR analysis revealed that the association between MetS and COPD is primarily mediated by body mass index (BMI), as the association was no longer significant after adjusting for BMI. Two-step MR confirmed BMI mediated most (86-94%) of MetS and waist circumference effects on COPD, with alcohol consumption having a smaller, opposite mediating effect. No evidence supported a reverse causal effect of COPD on MetS. This study demonstrates that genetically predicted MetS, particularly obesity and hypertension, causally increases COPD risk, with BMI as a key mediator. Proactive weight management could effectively prevent COPD in MetS patients.

Keywords: Mendelian randomization; body mass index; causal effect; chronic obstructive pulmonary disease; metabolic syndrome.

Conflict of interest statement

The authors have no funding and conflicts of interest to disclose.

- 42 references

Supplementary info

MeSH termsExpand

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Cite

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Review

Physiol Int

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. 2026 Mar 13:2060.2026.00811.

doi: 10.1556/2060.2026.00811. Online ahead of print.

Virtual reality in pulmonary rehabilitation: A systematic review of clinical outcomes in COPD and post-COVID conditions

Jaekyung Lee [1], Fernanda Büchner Strachman [1], Gabriella Szendrő [2], Mónika Fekete [3], János Tamás Varga [1]

Affiliations Expand

- PMID: 41823998

- DOI: 10.1556/2060.2026.00811

Abstract

Background: Chronic obstructive pulmonary disease (COPD) and post-COVID syndrome cause persistent dyspnea and exercise intolerance. Traditional pulmonary rehabilitation (PR) improves outcomes. Virtual reality (VR)-based PR has been proposed as an engaging alternative. We systematically reviewed randomized trials of VR-based PR programs to evaluate its efficacy and feasibility.

Methods: Following PRISMA guidelines, we searched PubMed, Web of Science, CENTRAL and Google Scholar (2014-Feb 2025) for RCTs comparing VR-assisted PR versus standard PR in patients with COPD or post-COVID conditions. Based on the selection criteria nine trials (primary search total n = 552; 488 COPD and 64 post-COVID patients) were included. Six domains were considered: lung function, exercise capacity (6MWT, STST), dyspnea, quality of life, mental health, and cognitive function.

Results: Across nine RCTs (n = 552), VR-based pulmonary rehabilitation resulted improvements in exercise capacity in all studies, with several reporting greater gains in VR groups. A long-duration trial showed meaningful FEV1 improvement with VR, while shorter trials showed limited changes. Dyspnea and functional scores improved in both groups without consistent between-group differences. VR tended to yield greater reductions in anxiety and depression scores, and one trial showed better cognitive function in post-intervention. Quality-of-life outcomes improved in both groups.

Conclusion: VR-based PR was feasible and produced functional gains at least equal to those of traditional PR. VR's capacity for remote supervised training and gamification holds promise to improve access and adherence. However, evidence is limited by small, short-term trials. Larger, longer RCTs are needed to confirm these benefits, optimize VR protocols, and evaluate cost-effectiveness.

Keywords: COPD; exercise tolerance; post-COVID; pulmonary rehabilitation; virtual reality.

Supplementary info

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Review

Cureus

. 2026 Mar 10;18(3):e105016.

doi: 10.7759/cureus.105016. eCollection 2026 Mar.

Chronic Obstructive Pulmonary Disease and Overtraining Syndrome: A Narrative Review

Bruno Bordoni [1], Enricomaria Mattia [2], Bruno Morabito [3]

Affiliations Expand

- PMID: 41822254
- PMCID: PMC12976572
- DOI: 10.7759/cureus.105016

Abstract

Chronic obstructive pulmonary disease (COPD) is a condition that inevitably leads to airflow limitation. COPD is among the leading causes of increased mortality and morbidity worldwide. A non-invasive and non-pharmacological approach is rehabilitation training, where the patient follows an active program to stimulate the limb and respiratory muscles. Training involves a constant increase in workloads throughout the rehabilitation process. A fundamental concept absent from the literature is that of including training sessions with reduced loads and periods of "unloading" intensity within the rehabilitation program. Without adequate recovery and rest between sessions, the patient may lack the resources necessary to tackle a subsequent demanding rehabilitation session. This situation could lead to the onset of overtraining syndrome (OTS), where the patient experiences an unexplained decline in performance. The article reviews the muscular adaptation of COPD patients and the planned rehabilitation and emphasizes the concept that clinicians

should structure the rehabilitation training program not in a linear fashion (constantly increasing loads), but in a wave-like fashion (scheduling some sessions with decreased loads). This organization could benefit the patient's performance, reducing the risk of OTS.

Keywords: american thoracic society; copd; diaphragm; european respiratory society; fev1; inspiratory muscle training; maximal inspiratory pressure; overtraining syndrome; rehabilitation training.

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.

- 63 references
- 3 figures

Supplementary info

Publication typesExpand

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Cite

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Eur Respir J

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. 2026 Mar 12:2501272.

doi: 10.1183/13993003.01272-2025. Online ahead of print.

Hallmarks of the ageing lung - 10 years later

Jonathan R Baker [1], Delphine Beaulieu [2], Edibe Avci [3 4], Eileen Huang [2], Oliver Eickelberg [2], Silke Meiners [5 6], Rajkumar Savai [3 4], Mareike Lehmann [3 7 8], Melanie Königshoff [9 10]

Affiliations Expand

- PMID: 41819537

- DOI: 10.1183/13993003.01272-2025

Abstract

Aging is a crucial factor in the development of chronic lung diseases, including chronic obstructive pulmonary disease (COPD), idiopathic pulmonary fibrosis (IPF), and lung cancer. Marking the 10th anniversary of the original "Hallmarks of the aging lung" published in this Journal, we present an updated review highlighting key cellular and molecular features of aging that drive the onset and progression of these conditions. Aging stands as the most significant risk factor for chronic lung diseases, which are characterised by structural and functional changes such as reduced elasticity, persistent inflammation, and impaired repair capacity. Recent evidence confirms that nearly all recognised hallmarks of aging play a role in the pathogenesis of these diseases. Notably, extracellular matrix (ECM) dysregulation - first proposed as a lung aging hallmark in 2015 - has become an integral aspect of aging in lung disease. Environmental exposures, such as cigarette or wildfire smoke, accelerate age-related changes by increasing oxidative stress, promoting cellular senescence, and disrupting tissue homeostasis. In lung cancer, aging contributes to genomic alterations, epigenetic dysregulation, immune evasion, and therapeutic resistance. Additionally, the roles of extracellular vesicles and microbiome changes in shaping these aging phenotypes are emerging areas of research. Early clinical studies are now targeting specific aging hallmarks, such as cellular senescence, with the goal of reducing age-related pathology and improving outcomes. Overall, integrating aging biology into lung disease research paves the way for innovative diagnostic and therapeutic strategies that address common molecular mechanisms across multiple chronic lung conditions.

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Ann Emerg Med

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. 2026 Mar 11:S0196-0644(26)00072-7.

doi: 10.1016/j.annemergmed.2026.01.024. Online ahead of print.

Telemedicine Use and Outcomes Following Discharge From the Emergency Department, 2020-2022

Austin S Kilaru [1], Angira Mondal [2], Sophia Jesteen [3], Zhi Geng [2], Dane Isenberg [4], Hashem E Zikry [5], Zachary F Meisel [6]

Affiliations Expand

- PMID: 41817487

- DOI: 10.1016/j.annemergmed.2026.01.024

Abstract

Study objective: To describe the use of telemedicine for outpatient follow-up care after discharge from the emergency department (ED) in a large cohort of patients with commercial insurance or Medicare Advantage and determine whether telemedicine follow-up was associated with greater return hospitalizations compared with in-person care.

Methods: Using administrative claims data, we conducted a retrospective cohort study of adults discharged from the ED with congestive heart failure, diabetes, chronic obstructive pulmonary disease, or asthma, from 2020 to 2022. The primary outcome was modality of the first outpatient visit within 14 days, either in person or via telemedicine. We used multivariable logistic regression to examine patient characteristics associated with use of telemedicine compared with in-person follow-up. We also used time-to-event methods to estimate the risk of return hospitalization for patients who obtained telemedicine versus in-person follow-up.

Results: Among 147,561 patients discharged from the ED (mean age 63.9 years; 56.5% women), we found that 4,107 (2.8%) obtained telemedicine follow-up visits and 34,882 (23.6%) obtained in-person follow-up. An additional 7,487 (5.1%) patients were hospitalized prior to obtaining any follow-up. Use of telemedicine varied across conditions and was associated with younger age, female sex, more comorbidities, and ED visit complexity. Telemedicine was not associated with greater risk of return hospitalization compared with in-persnon follow-up.

Conclusion: ED patients used telemedicine for outpatient follow-up visits at low rates, with comparable rates of return hospitalization to those who obtained in-person follow-up. Future studies may examine focused interventions to deploy telemedicine to expand access to follow-up care for selected patients.

Keywords: Access to care; Care Coordination; Follow-up care; Return hospitalization; Telemedicine.

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BMC Med Imaging

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. 2026 Mar 11.

doi: 10.1186/s12880-026-02263-w. Online ahead of print.

Nomogram based on quantitative lung CT features to identify cardiovascular disease in chronic obstructive pulmonary disease and predict prognosis

Xiaoqing Lin [#1,2], Qianxi Jin [#1], Taohu Zhou [#1], Xiuxiu Zhou [1], Yu Guan [1], Xin'ang Jiang [1], Yi Xia [1], Jiong Ni [3], Fangyi Xu [4,5], Hongjie Hu [4,5], Shiyuan Liu [1], Rozemarijn Vliegenthart [6], Li Fan [7]

Affiliations Expand

- PMID: 41814218

- DOI: 10.1186/s12880-026-02263-w

Free article

No abstract available

Conflict of interest statement

Declarations. Ethics approval and consent to participate: In accordance with the Declaration of Helsinki, this retrospective study was approved (Ethical Approval: Second Affiliated Hospital of Naval Medical University Ethics Committee, 2022SL068, December 6, 2022; Trial Registration: Chinese Clinical Trial Registry, ChiCTR2300069929, March 29, 2023), with a waiver for individual patient consent requirements. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 37 references

Supplementary info

Grants and fundingExpand

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Review

Eur Respir Rev

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. 2026 Mar 11;35(179):250182.

doi: 10.1183/16000617.0182-2025. Print 2026 Jan.

Definitions of early COPD and predictors for disease progression: a systematic review

Alastair Watson [1 2], Ross Davidson [3 2], Fu Chuen Kon [4], Arnav Sharma [3], Gbenga Adesoye [2], Bryan Chang [2], Kane Alexander [5], Mosea Song [2], Isobel Soper [2], Akhilesh Jha [3], Marie Fisk [3 2]

Affiliations Expand

- PMID: 41813011

- PMCID: PMC12976884

- DOI: 10.1183/16000617.0182-2025

Abstract

Introduction: Early chronic obstructive pulmonary disease (COPD) is considered to represent the initial phase of the disease. However, inconsistent terminology and lack of standardised definitions hinders research and clinical application. This systematic review examined clinical research on early COPD, analysed terms and definitions used, and evaluated predictors of disease progression. This serves as a platform to reach consensus and direct future research to target early disease states and improve patient outcomes.

Methods: Utilising a standardised protocol, we systematically screened all clinical studies on early COPD. Titles and abstracts were reviewed and compared against

inclusion and exclusion criteria. Stage 1 assessed terminology and definitions and stage 2 evaluated predictors of progression. Two independent people reviewed studies at each stage. Study quality was appraised using a modified Downs and Black checklist.

Results: We identified 4871 articles, 1759 were screened after duplicate removal. The terms used included PRISm (preserved ratio impaired spirometry) (104 articles), GOLD 0 (Global Initiative for Chronic Obstructive Lung Disease stage 0) (63), early COPD (37), at-risk COPD (35) and pre-COPD (30). Definitions were heterogeneous and proposed early COPD definitions were not routinely used. Stage 2 included 43 full-text articles from cohort studies, of which 93% were of good quality. Predictors of progression included age (n=13 articles), smoking history (12), symptoms (12), exacerbations (one), lung function measures (20), computed tomography metrics (14), risk tools (three) and machine learning approaches (three).

Conclusion: We demonstrate an urgent need for consensus on clinically applicable definitions of the early disease course of COPD, prior to diagnosis. We highlight predictors of progression; these need validation to enable stratification of individuals early in their disease trajectory for targeted management to halt or modify progression.

Conflict of interest statement

Conflict of interest: A. Watson, R. Davidson, F.C. Kon, A. Sharma, G. Adesoye, B. Chang, K. Alexander, M. Song and I. Soper have nothing to disclose. A. Jha reports grants from Amgen, consultancy fees from GSK, and payment or honoraria for lectures, presentations, manuscript writing or educational events from Sanofi. M. Fisk has nothing to disclose.

- 99 references
- 2 figures

Supplementary info

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11

ERJ Open Res

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. 2026 Mar 9;12(2):00797-2025.

doi: 10.1183/23120541.00797-2025. eCollection 2026 Mar.

Increased alveolar tissue destruction in a sub-group of COPD patients with increased alveolar septal eosinophil counts

Andrew Higham [1], Sophie Booth [1 2], Josiah Dungwa [2], Anna Ioannidi [2], Dave Singh [1 2]

Affiliations Expand

- PMID: 41809868

- PMCID: PMC12969695

- DOI: 10.1183/23120541.00797-2025

Abstract

Background: Higher blood eosinophil counts are associated with greater lung function decline in patients with COPD, and a relationship between higher sputum eosinophil counts and greater emphysema has been reported. The aim of the current study was to investigate a role for eosinophils in alveolar septal damage, which may contribute to emphysema and lung function decline in COPD patients.

Methods: We quantified Luna positive alveolar septal eosinophil counts (ASEC) in peripheral lung tissue blocks from 48 COPD patients *versus* 27 smokers and 15 nonsmokers and examined the relationship between eosinophil numbers and alveolar tissue damage using histology techniques.

Results: The numbers of ASEC were greater in COPD compared to controls ($p \leq 0.02$), and there was a significant correlation between ASEC and alveolar septal damage in a subgroup of COPD patients ($rho=0.4$, $p=0.03$).

Conclusion: This association suggests a role for eosinophils in the pathogenesis of emphysema in a subset of COPD.

Conflict of interest statement

Conflict of interest: D. Singh has received sponsorship to attend and speak at international meetings, honoraria for lecturing or attending advisory boards from the following companies: Aerogen, AstraZeneca, Boehringer Ingelheim, Chiesi, Cipla, CSL Behring, Epiendo, Genentech, GlaxoSmithKline, Glenmark, Gossamerbio, Kinaset, Menarini, Novartis, Pulmatrix, Sanofi, Teva, Theravance and Verona. The remaining authors have no conflicts of interest.

- 28 references
- 4 figures

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12

ERJ Open Res

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. 2026 Mar 9;12(2):00591-2025.

doi: 10.1183/23120541.00591-2025. eCollection 2026 Mar.

Acute effects of low-dose bisoprolol on lung function and blood pressure in COPD patients

Thomas F Bradbury [1 2], Allison Martin [1 2], Robert J Hancox [3 4], Catherina L Chang [4], Richard Beasley [5], Jeremy P Wrobel [6 7], Vanessa M McDonald [8], Claudia C Dobler [9], Ian A Yang [10 11], Claude S Farah [12], Belinda Cochrane [13], Graham S Hillis [14 15], Caroline Polak Scowcroft [16], Ashutosh Aggarwal [17], Channa Ranasinha [18], Shane Galgey [1], Christine R Jenkins [1 2]

Affiliations Expand

- PMID: 41809863

- PMCID: PMC12969693

- DOI: 10.1183/23120541.00591-2025

Abstract

Background and objective: Recent observational data suggest that cardioselective β-blockers like bisoprolol are safe and beneficial for patients with COPD. However, the acute effects of bisoprolol on lung and cardiovascular function in these patients is unclear, a gap that this study aimed to address.

Methods: This was a subanalysis of pre-randomisation screening visit data from the ongoing Preventing Adverse Cardiac Events (PACE) in COPD randomised controlled trial. If all other eligibility criteria were met, participants were orally administered an unblinded 1.25 mg tablet of bisoprolol. Post-bronchodilator spirometry, heart rate and blood pressure were monitored at 0, 30 (cardiovascular parameters only), 60 and 120 min. For this subanalysis, respiratory intolerance was defined as a decrease in forced expiratory volume in 1 s (FEV_1) (L) ≥200 mL and

≥12% from the 0-min FEV_1 (L) value; and cardiovascular intolerance was defined as systolic blood pressure (SBP) falling below 100 mmHg at 1 or 2 h.

Results: Of 359 consented participants, 292 conducted the test-dose procedure. 13 (4.5%) were respiratory intolerant and six (2.1%) were cardiovascular intolerant at 1 or 2 h. No participant was intolerant for both. There was no significant difference in FEV_1 (L) or SBP at baseline At 120 min the intolerant group's mean FEV_1 had significantly decreased to 1.05 L (95% CI 0.86-1.25 L; p<0.0001); the tolerant group experienced no change (1.10, 1.05-1.14 L; p=0.33).

Conclusion: The administration of 1.25 mg bisoprolol was acutely well tolerated in >95% of COPD patients.

Conflict of interest statement

Conflicts of Interest: Thomas F. Bradbury received a PhD top-up stipend funded by GSK for a portion of their candidature, during which time some work on this study was undertaken. A. Martin, C.C. Dobler, I.A. Yang, C.S. Farah, G.S. Hillis, C. Polak Scoowcroft, A. Aggarwal and S. Galgey have nothing to declare in relation to this work. R.J. Hancox declares that they are a staff member of the University of Otago, which received a grant from the Health Research Council of New Zealand; have received honoraria from GSK; and received honoraria and travel funding from AstraZeneca. C.L. Chang declares that the Health Research Council of New Zealand provided a grant for study, which was paid to the University of Otago then subcontracted out to their employer, Waikato Hospital. R. Beasley declares that he has previously received project grant from the Health Research Council of New Zealand; has received institutional research funding from AstraZeneca, Teva, and Fisher and Paykel Healthcare; received payment for personal fees from AstraZeneca and Cipla; received support from AstraZenca to attend meetings; has received medication and equipment from AstraZeneca to support clinical trials; was previously on the board of the Global Initiative for Obstructive Lung disease, and chaired the Asthma Guidelines group within the New Zealand Asthma and Respiratory Foundation. J.P. Wrobel has received honoraria from Boehringer Ingelheim for lectures; has received support to attend the "Airways" conference in Sydney, Australia, and the 2023 American Thoracic Society Annual Scientific Meeting in Washington, DC, USA. V.M. McDonald declares that they have received a grant from the National Health and Medical Research Council of Australia. B. Cochrane declares that they have received institutional grant funding from GSK for an investigator-sponsored study; have received personal consultancy fees from GSK and Sanofi; have received personal speaker's fees from AstraZeneca, Moderna and RX Global; and are a member of the COPD coordinating committee and the COPDX Guidelines, which are both associated with the Lung Foundation of Australia. C. Ranasinha declares that they have received payment from AstraZeneca for delivering lectures and received support for attending APSR 2024; received honorarium from The George Institute for Global Health via Remedium One. C.R. Jenkins declares that she has received personal and institutional grants from GSK and AstraZeneca; institutional grants from Chiesi, Sanofi and Menarini; consulting fees and payments for other activities from GSK, AstraZeneca, Chiesi, Sanofi and Menar; payment for expert testimony from AstraZeneca and Chiesi; travel bookings and accommodation paid for by GSK and AstraZeneca; is a director of the Lung Foundation Australia and the Asbestos and Dust Disease Research Institute Board;

was a member of the data safety monitoring board without payment for the LAMA by Night, COPERNICUS and VCAPS4 studies; was a member of the CICERO – Catalina steering committee without payment; and has received payment for participating on advisory boards for GSK, AstraZeneca, Chiesi, Sanofi and Menarini.

- 49 references
- 4 figures

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13

Drugs

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. 2026 Mar 10.

doi: 10.1007/s40265-026-02303-3. Online ahead of print.

GOLD 2026: Transforming COPD Management with Early Intervention, Multi-dimensional Assessment, and Personalized Care

Mario Cazzola [1], Jyoti Bajpai [2], Luigino Calzetta [3], Maria Gabriella Matera [4], Paola Rogliani [5]

Affiliations Expand

- PMID: 41806208

- DOI: 10.1007/s40265-026-02303-3

Abstract

The 2026 report from the Global Initiative for Chronic Obstructive Lung Disease (GOLD) introduces substantial conceptual and practical updates to the management of chronic obstructive pulmonary disease. While maintaining the established spirometric definition, the report emphasizes early diagnosis, multi-dimensional assessment, and personalized treatment strategies that move beyond a spirometry-centric approach. Key innovations include formally recognizing disease activity as a therapeutic target, refining the ABE classification with a lower threshold for patients prone to exacerbations (Group E), and integrating blood eosinophil counts to guide inhaled corticosteroid therapy. Nonpharmacologic interventions, such as

pulmonary rehabilitation, vaccination, smoking cessation, structured self-management, and post-exacerbation care, are elevated to core disease-modifying strategies. Pharmacological escalation is structured around dual bronchodilation as the preferred initial step, with further intensification to biomarker-guided triple therapy, including inhaled corticosteroids or other anti-inflammatory agents, reserved for selected patients who remain symptomatic or experience exacerbations despite optimized dual therapy. GOLD 2026 also introduces biologics, dupilumab and mepolizumab, as an add-on therapy for exacerbation-prone eosinophilic chronic obstructive pulmonary disease. However, it also highlights ongoing limitations in efficacy, cost effectiveness, and generalizability. Artificial intelligence and emerging digital technologies are recognized as promising adjuncts in the management of chronic obstructive pulmonary disease, though their clinical implementation remains preliminary. Overall, GOLD 2026 advances precision medicine in chronic obstructive pulmonary disease by combining structured individualized assessments with early targeted interventions. However, significant uncertainties remain, including biological variability of biomarkers, limited evidence for emerging therapies, and barriers to equitable access to nonpharmacologic and advanced interventions. Careful context-sensitive application and continued validation are essential.

Conflict of interest statement

Declarations. Conflict of interest: Mario Cazzola, Jyoti Bajpai, Luigino Calzetta, Maria Gabriella Matera, and Paola Rogliani have no financial or non-financial relationships or activities concerning this article. Mario Cazzola and Luigino Calzetta are Editorial Board members of Drugs. Mario Cazzola and Luigino Calzetta were not involved in the selection of peer reviewers for the manuscript nor any of the subsequent editorial decisions. Ethics approval: Not applicable. Consent to participate: Not applicable. Consent for publication: Not applicable. Availability of data and material: Not applicable. Code availability: Not applicable. Author contributions: All authors were involved in the initial conception of the manuscript. MC and JB led the drafting and coordinated the revisions of the manuscript among all authors. LC, MGM, and PR critically revised the content on their areas of expertise. All authors approved the final draft.

- 83 references

14

Chronic Obstr Pulm Dis

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. 2026 Mar 9.

doi: 10.15326/jcopdf.2025.0745. Online ahead of print.

COPD Exacerbation Recognition Tool: Translation, Linguistic, and Cross-Cultural Validation

Rainer Gloeckl [1], Ruth Tal-Singer [2], Peter Deussen [3], Russell Winwood [4 5], Tharishini Mohan [6], Megan Turner [7], Mohamed Hamouda [8], Mandeep Moore [6], Paul Jones [9 10]

Affiliations Expand

- PMID: 41805155

- DOI: 10.15326/jcopdf.2025.0745

Free article

Abstract

Background: The Chronic Obstructive Pulmonary Disease (COPD) Exacerbation Recognition Tool (CERT) was developed to improve patients' recognition of COPD exacerbations. This validation study concerned the cross-cultural and linguistic validation of 46 CERT translations across 25 countries and 6 continents.

Methods: This studyemployed a rigorous, certified (International Organisation for Standardisation [ISO]-17100) methodology. Dual forward translations for each language were developed by independent translators who were native speakers of the target language and then reconciled by a linguistic validation consultant (LVC). Independent linguists provided a back translation of the reconciled translation, which was reviewed by the LVC and project manager. Linguistic validation was performed for each language through cognitive debriefing interviews with at least five participants with COPD who were native speakers of the target language. These participants also reviewed seven sets of images produced for different global regions to reflect patients from a diversity of cultures, countries and religions, to determine if the images were representative of themselves and/or other people living with COPD. The images were amended as needed and reshown to the participants for approval.

Results: The translations were found to be conceptually equivalent to the original CERT and harmonised with each other. Participants found the CERT easy to use and understand and confirmed that the images were representative of themselves and/or other people living with COPD.

Conclusion: CERT translations were created using a patient-centric approach and appear to be easily understandable and valid across many languages and cultures.

Keywords: COPD; education; exacerbation; patient-centered.

Supplementary info

Grants and fundingExpand

Full text links

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Cite

15

Review

Expert Rev Respir Med

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. 2026 Mar 12:1-18.

doi: 10.1080/17476348.2026.2644609. Online ahead of print.

Advances in biologic therapies for COPD: precision medicine approaches and implications for small-airway disease

Sumbul Afreen [1], Maddison Waters [2], Mathew Suji Eapen [3], Wenying Lu [3], Md Imtaiyaz Hassan [4], Sukhwinder Singh Sohal [3 5]

Affiliations Expand

- PMID: 41804713

- DOI: 10.1080/17476348.2026.2644609

Abstract

Introduction: COPD is a progressive respiratory condition marked by persistent airflow limitation and chronic inflammation, mainly caused by cigarette smoking. Although current inhaled therapies improve symptoms and reduce exacerbations, they do not substantially modify disease progression, emphasizing the need for novel therapeutic approaches.

Areas covered: This review provides a comprehensive overview of the effectiveness and mechanisms of biologic therapies in the management of COPD. We discuss the mechanistic rationale, clinical efficacy, and limitations of currently approved and emerging biologics, highlighting their relevance to distinct inflammatory endotypes of COPD. The role of small-airway disease in COPD is highlighted, together with advances in drug formulation and inhaled delivery technologies. Challenges related to drug delivery, particularly the influence of particle size on distal airway

deposition, are examined, along with recent innovations in nanotechnology and comparative considerations of systemic versus inhaled therapeutic approaches. Relevant literature was identified through searches of PubMed (MEDLINE), Embase, Web of Science, and Google Scholar. Studies available in print or online up to June 2025 were considered.

Expert opinion: Biologic therapies offer promise for selected COPD phenotypes; however, their long-term impact will depend on precision medicine, optimized airway-targeted delivery, and integration with established inhaled treatments to achieve meaningful disease modification.

Keywords: Chronic obstructive pulmonary disease; biologic therapies; extrafine particle inhalers; nanotechnology; precision medicine; pulmonary drug delivery; small airways.

Supplementary info

Publication typesExpand

Full text links

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Cite

16

Eur J Med Res

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. 2026 Mar 9.

doi: 10.1186/s40001-026-04061-0. Online ahead of print.

Clinical value of sputum galactomannan testing in the diagnosis of invasive pulmonary aspergillosis among chronic obstructive pulmonary disease patients

Yi Lan [1 2], Hong Li [1], Dan Su [3], Xiuqing Liao [4], Qiao Zhang [5], Qianli Ma [6]

Affiliations Expand

- PMID: 41803989

- DOI: 10.1186/s40001-026-04061-0

Free article

Abstract

Background: Diagnosing invasive pulmonary aspergillosis (IPA) in patients with chronic obstructive pulmonary disease (COPD) remains challenging due to the non-specific nature of imaging findings, the limited sensitivity of current diagnostic methods, and the difficulty of obtaining appropriate clinical specimens.

Objective: To evaluate the diagnostic accuracy of sputum galactomannan (GM) testing in COPD patients with IPA.

Methods: In this multicenter cross-sectional study, COPD patients with suspected IPA and patients with community-acquired pneumonia (CAP) were enrolled. GM testing was performed on sputum, serum, and bronchoalveolar lavage fluid (BALF) samples, while fungal culture was conducted on sputum samples. Diagnostic performance was assessed using the EORTC/MSGERC criteria as the reference standard.

Results: A total of 134 patients were included, comprising the COPD + IPA group (n = 43), the COPD + CAP group (n = 70), and the CAP group (n = 21). The areas under the receiver operating characteristic curve (AUCs) for GM detection in sputum, BALF, and serum were 0.833 (95% CI: 0.753-0.913), 0.884 (95% CI: 0.799-0.970), and 0.659 (95% CI: 0.552-0.766), respectively. The optimal cut-off values for sputum and BALF GM were 1.64 and 1.12, respectively. At these thresholds, sputum GM demonstrated a sensitivity of 79.1% and specificity of 75.7%, while BALF GM showed a sensitivity of 76.5% and specificity of 96.6%.

Conclusion: Sputum GM testing demonstrates significant diagnostic value for IPA in COPD patients and provides a non-invasive alternative with reliable performance, making it a promising tool for preliminary screening and reducing the need for invasive procedures in clinical practice.

The clinical trial registration number: ChiCTR2400089800.

Keywords: Chronic obstructive pulmonary disease; Diagnosis; Galactomannan; Invasive pulmonary aspergillosis; Sputum.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee [(the Medical Ethics Committee of North Kuanren General Hospital), reference number: (ChiCTR2400089800, registration Date: September 14, 2024)] and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. For participants under the age of 16, informed consent was obtained from their parent or legal guardian. Informed consent was obtained from all individual participants included in the study. The consent form signed by the patients included their agreement for the use of their de-identified data for research purposes and publication of the findings. Consent for publication: Written informed consent for publication was obtained from all individual participants included in the study. For participants who are minors, consent for publication was provided by their parent or legal guardian. Competing interest: The authors declare no competing interests.

- 35 references

Full text links

Proceed to details

Cite

17

BMC Pulm Med

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. 2026 Mar 10.

doi: 10.1186/s12890-026-04219-w. Online ahead of print.

CT image-based machine learning models for predicting blood eosinophil levels in acute exacerbation of chronic obstructive pulmonary disease

Shuiqing Zhao [1 2], Yanan Wu [3], Lirong Du [4], Hui Jia [5], Patrice Monkam [1], Wei Qian [1], Ruiying Wang [6], Shuyue Xia [7], Shouliang Qi [8 9]

Affiliations Expand

- PMID: 41803845

- DOI: 10.1186/s12890-026-04219-w

Free article

No abstract available

Keywords: Acute exacerbation of chronic obstructive pulmonary disease; Blood eosinophils; Computed tomography; Machine learning; Radiomics.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: All procedures performed in studies involving human participants were in accordance with the ethical standards of the ethics committee of Shanxi Bethune Hospital and the Affiliated Center Hospital of Shenyang Medical College and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Consent to participate Informed consent was obtained from all individual participants included in the study. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests

- 63 references

Supplementary info

Grants and fundingExpand

Full text links

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Cite

18

BMC Prim Care

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. 2026 Mar 9.

doi: 10.1186/s12875-026-03237-1. Online ahead of print.

'The focus when you're in the gym is on being well and getting well' - experiences of patients undertaking pulmonary rehabilitation in private physiotherapy and exercise physiology practices

Jessica A Walsh [1], Marita T Dale [1], Zoe J McKeough [1], Jennifer A Alison [1 2], Sarah M Dennis [3 4 5]

Affiliations Expand

- PMID: 41803764

- DOI: 10.1186/s12875-026-03237-1

No abstract available

Keywords: Chronic obstructive pulmonary disease; Primary Care; Qualitative; Rehabilitation.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: The authors assert that all procedures contributing to this work comply with the Declaration of Helsinki. The study was approved by Sydney Local Health District (RPAH Zone) Human Research Ethics Committee (2022/ETH02324). Informed consent was obtained from all individual participants included in the study. Consent for publication: Not applicable. Competing interests: Zoe J McKeough is the managing director of Better Breathing Foundation. All other authors declare no conflicts of interest.

- 41 references

Full text links

UNIMORE

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Cite

19

Eur J Heart Fail

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. 2026 Mar 9:xuag065.

doi: 10.1093/ejhf/xuag065. Online ahead of print.

Letter regarding the article 'Beta-blockers in patients with heart failure with reduced ejection fraction and concomitant chronic obstructive pulmonary disease: Cardiovascular and respiratory outcomes'

Yuanru Chai [1 2], Dawei Wang [2 3 4]

Affiliations Expand

- PMID: 41802233

- DOI: 10.1093/ejhf/xuag065

No abstract available

Full text links

OXFORD ACADEMIC UNIMORE

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Cite

20

Eur Respir J

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. 2026 Mar 12:2502574.

doi: 10.1183/13993003.02574-2025. Online ahead of print.

Joint statement from GOLD/GLI regarding the use of spirometry to define airflow obstruction and diagnose COPD

David M G Halpin [1 2], Sanja Stanojevic [3 2], Meredith C McCormack [4], Dave Singh [5], David Kamkinsky [6], Claus F Vogelmeier [7], Laura Gochicoa-Rangel [8], Alvar Agusti [9], Brendan Cooper [10 2]

Affiliations Expand

- PMID: 41748283

- DOI: 10.1183/13993003.02574-2025

Free article

No abstract available

Full text links

Proceed to details

Cite

21

Review

Clin Chim Acta

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. 2026 Mar 15:584:120868.

doi: 10.1016/j.cca.2026.120868. Epub 2026 Jan 26.

Multi-omics biomarker detection in smoking induced COPD

Rahamat Unissa Syed [1], Mohammed Khaled Bin Break [2], Rihab Akasha [3], Nancy Mohammad Elafandy [3], Sally Hassan Abobaker [4], Amna Abakar Suleiman Khalifa [3], Nayla Ahmed Mohammed Aboshouk [3], Afrah Nashmi Alghaythi [5], Lama Abdullah Altwalah [5], Rawabi Mohammed Menwer Aldhafeeri [5], Mohd Sajjad Ahmad Khan [6], Gaurav Gupta [7]

Affiliations Expand

- PMID: 41605376

- DOI: 10.1016/j.cca.2026.120868

Abstract

Chronic obstructive pulmonary disease (COPD) is marked by heterogeneity, and traditional spirometric biomarkers fall short of fully capturing its underlying molecular complexity. This review discusses recent developments in multi-omics profiling, such as transcriptomics, proteomics, metabolomics, and epigenomics/acetylomics, to define biologically meaningful COPD endotypes and enhance their clinical categorization. Reproducible circulating protein markers identified in proteomic studies include surfactant protein D (SP-D), club cell secretory protein (CC16), fibrinogen, and inflammatory cytokines, which predict disease severity, risk of exacerbation, and mortality. Further evidence of dysregulated histone/protein acetylation and other post-translational modifications in chronic inflammation, steroid resistance, and disease progression is provided by epigenomic studies (such as DNA methylation, non-coding RNAs, and chromatin remodeling) and acetylomic analyses. Notably, integrative multi-omics solutions exhibit better outcomes than single-biomarker solutions by allowing the identification of molecular endotypes that are more likely to accommodate clinical heterogeneity. Nevertheless, it is significantly constrained by cohort and platform heterogeneity, including factors such as smoking exposure, age, comorbidities, treatment, and sample processing methods. Overall, the existing evidence highlights the importance of multi-omics integration in the further development of precision diagnostics and individualized management of COPD, bridging the gap between molecular pathology and clinical decision-making.

Keywords: Biomarkers; COPD; Diagnostics; Multi-omics; Precision medicine; Proteomics; Smoking.

Conflict of interest statement

Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links

. 2026 Mar 12;67(3):2501760.

doi: 10.1183/13993003.01760-2025. Print 2026 Mar.

Bronchodilator reversibility, body plethysmographic phenotypes, and mortality in patients with COPD or PRISm

Andreas Hoheisel [1], Sebastian Fähndrich [1], Anna Salina [1 2 3], Eleni Papakonstantinou [1], Maria Pascarella [4], Leticia Grize [1], Daiana Stolz [5]

Affiliations Expand

- PMID: 41506714

- DOI: 10.1183/13993003.01760-2025

No abstract available

Conflict of interest statement

Conflict of interest: A. Hoheisel reports lecture honoraria paid to an institution from AstraZeneca Germany and GSK Germany, and support for congress attendance, including travel and accommodation fees, paid to an institution by Sanofi-Aventis Germany GmbH; he is task force chair for the ERS Clinical Practice Guideline for the Pharmacological Maintenance Treatment of COPD (TF-2024-22). S. Fähndrich reports grants from Grifols, CSL Behring and AstraZeneca. A. Salina reports a doctoral grant from Rīga Stradiņš University and a leadership role with the European Respiratory Society. E. Papakonstantinou holds an unpaid leadership role in the ERS clinical practice guideline for the pharmacological maintenance treatment of COPD. M. Pascarella holds an unpaid leadership role in the ERS clinical practice guideline for the pharmacological maintenance treatment of COPD. L. Grize reports no conflicts of interest related to this work. D. Stolz reports payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca, Berlin-Chemie/Menarini, Boehringer Ingelheim, Chiesi, CSL Behring, Curetis AG, GSK, Merck, MSD, Novartis, Sanofi, Vifor, Roche, OM-Pharma and Pfizer, participation on a data safety monitoring board or advisory board with AstraZeneca, Berlin-Chemie/Menarini, Boehringer Ingelheim, Chiesi, CSL Behring, Curetis AG, GSK, Merck, MSD, Novartis, Sanofi, Vifor, Roche, OM-Pharma and Pfizer, a leadership role with the Global Initiative for Chronic Obstructive Lung Disease (GOLD), is task force chair for the ERS clinical practice guideline for the pharmacological maintenance treatment of COPD, and is an Associate Editor for the European Respiratory Journal.

Supplementary info

Publication typesExpand

Full text links

23

Sleep

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. 2026 Mar 11;49(3):zsaf333.

doi: 10.1093/sleep/zsaf333.

Dose-response relationship of sleep apnea therapy and healthcare use in patients with comorbidities

Atul Malhotra [1], Suyog More [2], Naomi Alpert [3], Jean-Louis Pépin [4], Kate V Cole [3], Caleb Woodford [2], Adam V Benjafield [5], Peter A Cistulli [6], Kimberly L Sterling [3]; medXcloud Group

Collaborators, Affiliations Expand

- PMID: 41143507

- DOI: 10.1093/sleep/zsaf333

Abstract

Study objectives: Obstructive sleep apnea (OSA) has complex interactive relationships with several other conditions. Previous research suggests that consistent adherence to positive airway pressure (PAP) therapy can reduce healthcare resource utilization (HCRU) in comorbid populations. We hypothesized that PAP therapy use would be associated with dose-dependent improvements in HCRU among patients with OSA and comorbid chronic obstructive pulmonary disease (COPD), type 2 diabetes, depression, heart failure, or atrial fibrillation.

Methods: We analyzed a linked dataset of medical/pharmacy claims data and objective PAP usage data for adults with newly diagnosed OSA between January 2015 and May 2021. Comorbidities were defined by at least two healthcare encounters or at least one hospitalization with the relevant diagnosis in the year before PAP initiation (index). HCRU outcomes included all-cause hospitalizations and emergency room (ER) visits over 12 and 24 months post-index.

Results: Among 377 830 patients with OSA (mean age: 51.7 years; 57.7% male), 6.6% had COPD, 18.7% type 2 diabetes, 16.5% depression, 4.2% heart failure, and 5.2% atrial fibrillation. Across all comorbidity cohorts, PAP usage was associated with a dose-dependent reduction in HCRU over 12 and 24 months. Risk-adjusted

analyses showed HCRU benefits beginning at 2 to less than 4 hours of average nightly PAP use. Each additional hour of use was associated with a 4.1%-6.2% reduction in hospitalizations and ER visits (all analyses p < .0001).

Conclusions: PAP therapy use is associated with dose-dependent reductions in HCRU among patients with OSA and major comorbidities. These findings may support data-driven reimbursement policies and highlight the value of treating OSA in complex patient populations.

Keywords: adherence; healthcare resource use; obstructive sleep apnea; positive airway pressure; real-world evidence.

- Cited by 1 article

Supplementary info

MeSH terms, Grants and fundingExpand

Full text links

Proceed to details

Cite

24

Randomized Controlled Trial

Thorax

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. 2026 Mar 13;81(4):302-310.

doi: 10.1136/thorax-2024-222823.

Mobile health pulmonary rehabilitation (m-PR): a randomised controlled equivalence trial

Sarah E Brown [1 2 3], Sally Wootton [3 4], Marita T Dale [1], Jennifer A Alison [1 5], Andrew S L Chan [3 6 7], Marlien Varnfield [8], Ian Yang [9 10], Michelle Cunich [11 12 13], Zoe J McKeough [14]

Affiliations Expand

- PMID: 40992935

- DOI: 10.1136/thorax-2024-222823

Abstract

Background: Mobile health (mHealth) is a novel model of care that may overcome barriers to pulmonary rehabilitation (PR) access. This study determined if mHealth PR was equivalent to centre-based PR (CB-PR) in improving exercise capacity and health status in people with chronic obstructive pulmonary disease (COPD).

Method: Single-blinded, multicentre, randomised controlled equivalence trial using an intention-to-treat analysis. Participants completed 8 weeks of either mHealth PR, using the mobile PR (m-PR) application and supported by telephone calls, or CB-PR. Co-primary outcomes, measured at baseline and end-intervention, were change in 6 minute walk distance (6MWD) and COPD assessment test (CAT) score, with an equivalence margin of 30 m and 2 points, respectively.

Results: 90 participants were randomised (mean (SD), m-PR n = 44: age 75 (7) years; forced expiratory volume in one second (FEV_1) 58 (15) % predicted; CB-PR n = 46: age 75 (6) years; FEV_1 55 (14) % predicted) with 38 m-PR participants and 42 CB-PR participants completing at least one primary outcome. At end-intervention, there was no between-group difference in 6MWD (mean difference (MD) 13 m, 95% CI -6 to 31), indicating equivalence of m-PR to CB-PR. There was a significant between-group difference in CAT score (MD -4.9 points, 95% CI -7.2 to -2.6), with both limits of the CI exceeding the equivalence margin, indicating superiority of m-PR.

Conclusion: An mHealth PR programme resulted in equivalent improvements in exercise capacity and superior improvements in health status when compared with CB-PR in people with COPD. mHealth PR could be effective as a management option for people with COPD with adequate digital literacy.

Trial registration number: ACTRN12619001253190.

Keywords: COPD Exacerbations; Emphysema; Exercise; Pulmonary Rehabilitation.

Conflict of interest statement

Competing interests: ZJM is the managing director of the Better Breathing Foundation, which has contributed PhD scholarship funding to SEB. All other authors declare that they have no competing interests.

Supplementary info

Publication types, MeSH termsExpand

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

1

BMC Health Serv Res

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. 2026 Mar 11.

doi: 10.1186/s12913-026-14311-w. Online ahead of print.

30-day healthcare utilisation after discharge from four General Internal Medicine departments in Switzerland: a prospective observational cohort study

Gregor John [1 2 3], Loïc Payrard [4], Jörg Leuppi [5 6], Marco Mancinetti [7 8], Daniel Genné [9 10], Jacques Donzé [4 11 12 13]

Affiliations Expand

- **PMID: 41814292**

- **DOI: 10.1186/s12913-026-14311-w**

Free article

No abstract available

Keywords: HOSPITAL score; HUTIL index; Healthcare services; Healthcare utilisation; Hospital discharge; Hospital readmission; Internal Medicine; Mortality; Multimorbidity.

Conflict of interest statement

Declarations. Human ethics and consent to participate: The participating hospitals' ethics committees approved the study protocol: Biel Hospital Centre (Biel, Switzerland): Ethics Committee for the Canton of Bern, Bern, ID 2018–00084 ; Neuchâtel Hospital Network (Neuchâtel, Switzerland): Human Research Ethics Committee of the Canton of Vaud, Lausanne ; Baselland Cantonal Hospital (Liestal, Switzerland): Ethics Committee for North western and Central Switzerland, Basel ; Fribourg Cantonal Hospital (Fribourg, Switzerland): Ethics Committee for the Canton of Bern, Bern. Written informed consent was obtained from all participants. The study was conducted in accordance with the principles of Good Clinical Practice and the Declaration of Helsinki. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- **23 references**

Supplementary info

Grants and fundingExpand

Full text links

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Cite

2

J Gen Intern Med

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. 2026 Mar 11.

doi: 10.1007/s11606-026-10338-1. Online ahead of print.

PACE-It: An Integrated Multidisciplinary Technology-Assisted Approach to Person-Centered Care for Individuals with Complex Care Needs

Prawira Oka [1 2], Zhen Sinead Wang [3], Pei Lin Hu [4 3], Chien Earn Lee [5], Chirk Jenn Ng [4 3]

Affiliations Expand

- PMID: 41811605

- DOI: 10.1007/s11606-026-10338-1

Abstract

Background: Providing quality care for individuals with multimorbidity requires the integration of care across health and social care systems; however, the two systems often work in silos, resulting in information asymmetry, fragmented care, and the duplication of services.

Aim: To describe a model integrating health and social care for individuals with complex care needs.

Setting: A public primary care organization in Singapore.

Participants: Individuals with poorly controlled diabetes mellitus and complex psychosocial needs.

Program description: PACE-It (PrimAry CarE based Integrated community care Team) program comprising an integrated multidisciplinary team and a technology-enabled secure communication platform.

Program evaluation: A pilot randomized controlled trial (n = 41) was conducted between December 2020 and February 2022. Individuals enrolled in the PACE-It program had better clinical outcomes than those receiving usual care, with more achieving HbA1c < 7.5% (22.2% vs 9.1%) and LDL < 2.6 mmol/L (80.0% vs 57.1%) at 12 months. They also reported greater patient activation and medication adherence from baseline (PAM score 3 and 4, 43.8% vs 23.3%; MARS-5 ≥ 20, 9.5% vs 4.4%).

Discussion: Preliminary findings show improved clinical and patient-reported outcomes. Additionally, the co-development of PACE-It led to stronger relationships and collaboration between health and social care workers.

Conflict of interest statement

Declarations. Human Ethics and Consent to Participate: This study was reviewed and approved by the SingHealth Centralized Institutional Review Board (CIRB Ref: 2020/2202). Written informed consent was obtained from all subjects before study participation. Conflict of interest: The authors declare that they do not have a conflict of interest.

- **20 references**

Supplementary info

Grants and fundingExpand

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

1

Int Forum Allergy Rhinol

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. 2026 Mar 13.

doi: 10.1002/alr.70141. Online ahead of print.

Allergic Rhinitis Amplifies Asthma Risk in Patients With Chronic Rhinosinusitis: A Large-Scale Retrospective Cohort Analysis

Austin J Lee [1], Mohamad R Chaaban [2]

Affiliations Expand

- **PMID: 41830158**

- **DOI: 10.1002/alr.70141**

Abstract

Background: Chronic rhinosinusitis (CRS) and allergic rhinitis (AR) are two highly prevalent airway diseases in the United States. While the coexistence of CRS and asthma is well recognized, less is known about the development of new-onset asthma in CRS, particularly in the context of comorbid AR. This study assessed the impact of CRS and AR on incident asthma using a large electronic health record (EHR) database.

Methods: We conducted a retrospective cohort study using the TriNetX US Collaborative Network, a federated EHR platform encompassing over 100 million patients. Adults ≥ 18 years between January 2009 and December 2019 with CRS were compared to controls without CRS. A second analysis compared patients with CRS and concurrent AR to those with CRS alone. Supplemental analyses substituted chronic rhinosinusitis with nasal polyps (CRSwNP) for CRS. Propensity score matching balanced cohorts on demographics and comorbidities. Primary outcomes were new-onset asthma and asthma exacerbations, assessed at 1, 2, and 5 years.

Results: After matching, pre-existing CRS was associated with higher risk of new-onset asthma (adjusted relative risk [aRR] = 1.42, 95% CI 1.36-1.48) and exacerbations (aRR = 1.87, 95% CI 1.75-2.00) at 1 year versus CRS controls, with similar trends at 2 and 5 years. Coexisting AR further amplified risk: patients with CRS + AR had increased asthma incidence relative to CRS alone at 1 year (aRR = 1.69, 95% CI 1.65-1.73), 2 years (aRR = 1.65, 95% CI 1.62-1.68), and 5 years (aRR = 1.58, 95% CI 1.56-1.60), with more than doubled exacerbation risk across all time points. Directionally similar findings were observed in CRSwNP analyses.

Conclusions: CRS is associated with increased risk of incident asthma and subsequent exacerbations, and coexisting AR identifies a higher-risk phenotype within CRS. These findings highlight the need for phenotype-informed studies to determine whether targeted upper-airway management can mitigate downstream asthma burden.

Keywords: allergic rhinitis; asthma; respiration disorders; rhinosinusitis.

- **53 references**

Full text links

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Cite

2

BMC Pulm Med

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. 2026 Mar 14.

doi: 10.1186/s12890-026-04232-z. Online ahead of print.

Quantitative CT assessment of structural and functional response to omalizumab in severe allergic asthma: a prospective real-world study

Shuang Liu [1], Yuechuan Li [1], Jian Wu [1], Zhen Ye [1], Ying Zhang [1], Hui Ma [2]

Affiliations Expand

- PMID: 41826913

- DOI: 10.1186/s12890-026-04232-z

No abstract available

Keywords: Anti-IgE therapy; Gas trapping; Omalizumab; Quantitative CT; Real-world study; Severe asthma; Small airway.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: This study was conducted in accordance with the Declaration of Helsinki. The research protocol was approved by the Ethics Committee of Tianjin Chest Hospital, Tianjin University (Approval No. 2024LW-009). Written informed consent was obtained from all participants prior to enrollment. All participants provided written informed consent for participation in this study. Consent for publication: Not Applicable. Competing interests: The authors declare no competing interests.

- 27 references

Supplementary info

Grants and fundingExpand

Full text links

Cite

3

Review

J Appl Toxicol

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. 2026 Mar 13.

doi: 10.1002/jat.70165. Online ahead of print.

Assessment of Efficacy and Safety Issues of Current Biological Agents in Management of Asthma

Ibtehal Nasser Salman [1], Nashwan Asaad [1], Mohamed M Khalifa [1 2]

Affiliations Expand

- PMID: 41825945

- DOI: 10.1002/jat.70165

Abstract

Around 5%-10% of people with asthma have severe or uncontrolled type of asthma, which is linked to higher hospitalization, higher death rates, higher health care costs, and lower quality of life. Recent years have seen the introduction of novel medications and the identification of multiple asthma phenotypes based on specific biomarkers. The management and treatment of severe asthma have been completely transformed by biologic therapy, which has demonstrated excellent therapeutic efficacy and substantial clinical advantages. In addition to enhancing the quality of life for individuals with severe asthma, biologic therapy significantly reduces exacerbations, hospital visits, and the requirement for continuous systemic steroids. Their therapeutic efficacy is demonstrated by randomized controlled trials (RCTs), extended research, metaanalyses, and real-world data. The development and registration of biologics, new systemic medications for severe asthma are the main topics of this study, which also describes possible future treatment strategies. PubMed, Scopus, and Google Scholar were used to examine the content of recent medical literature. The results of early, important RCTs and later research into biologics for severe types of asthma are summarized in this study. Their safety and effectiveness results, which were obtained in a range of contexts, improved their generalizability and offer useful insights into their use.

- 114 references

Supplementary info

Publication typesExpand

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Thorax

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. 2026 Mar 13:thorax-2025-224508.

doi: 10.1136/thorax-2025-224508. Online ahead of print.

Aligning management of chronic cough in asthma with BTS/NICE/SIGN guidance

Paul Marsden [1 2], Jaclyn Ann Smith [3 2], Surinder S Birring [4], Kevin Gruffydd-Jones [5], Jemma Haines [3 2], Lorcan P McGarvey [6], Matthew Martin [7], Alyn Morice [8 9], James O'Hara [10], Mike Thomas [11], Sean M Parker [12 13]

Affiliations Expand

- **PMID: 41825860**

- **DOI: 10.1136/thorax-2025-224508**

No abstract available

Keywords: Asthma; Cough/Mechanisms/Pharmacology.

Conflict of interest statement

Competing interests: PM reports research grant funding from MSD, NIHR Manchester BRC, consulting fees from Trevi, GSK. PM is a member of the BTS Cough Specialist Advisory Group. JAS reports research grant funding from Wellcome, MSD, MRC, Natural Environment Research Council, Moulton Charitable Trust, NIHR Manchester BRC, consulting fees from MSD, Bellus Health, Nocion, Shionogi, Algernon, AZ, BI, Chiesi, GSK, Trevi, Alxalbion, Seyltx and lecture fees from MSD, GSK. JAS is an inventor on a patent for a cough algorithm licensed to her institution, which receives royalty payments from Vitalograph. JAS reports support for attending meetings from GSK and Trevi. SB reports no competing

interests. KGJ reports consulting fees from GSK, AZ, Insmed, lecture fees from RCGP, Guidelines in Practice, AZ. He is a trustee of PCRS. LM reports research grant funding from MSD, Bellus Health, Chiesi, GSK and Bionorica and consulting fees from MSD, Chiesi, Nocion, Genentech, AZ, Bellus Health, Shionogi, GSK, Trevi, Reckitt Benckiser. LM reports lecture fees from Chiesi, Bellus Health, GSK, Merck, NeRRe Therapeutics, Nocion, Trevi, Reckitt Benckiser, Boehringer Ingelheim, Bionorica and is CI of the ERS NEuroCOUGH Clinical Research Collaboration. JH reports consulting and lecture fees from GSK. MM reports research grant funding from NIHR School for Primary Care Research, lecture fees from Chiesi and support to attend meetings from Chiesi, AZ. AM reports research grant funding from GSK, Axalbion, Trevi, consulting fees from GSK, lecture fees from MSD, GSK. AM participates in a data safety monitoring board for BI and is a member of the ERS taskforce on cough nomenclature, ERS Neurocough CRC and holds stock in SIVA Health AG. JOJ reports research funding from Reckitt. MT has no conflicts of interest to declare. SP reports lecture fees from Primary Care 2025 Event, consulting fees from Trevi and support for attending a conference from Chiesi.

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Editorial

Eur Respir J

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doi: 10.1183/13993003.02384-2025. Print 2026 Mar.

Time to establish a consensus definition of clinical remission distinct from well-controlled asthma

Richard Beasley [1], Jonathan Noble [2]

Affiliations Expand

- PMID: 41819542

- DOI: 10.1183/13993003.02384-2025

No abstract available

Conflict of interest statement

Conflict of interest: R. Beasley reports grants from AstraZeneca, Teva, the Health Research Council of New Zealand, CureKids NZ and Perpetual Guardian, consultancy fees from AstraZeneca, Avillion and Teva, payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca, participation on a data safety monitoring board or advisory board with AstraZeneca and Teva, a leadership role with the Asthma and Respiratory Foundation NZ, and is a member of the editorial board of the European Respiratory Journal. J. Noble has no potential conflicts of interest to declare.

Comment on

- **Long-term efficacy but rare sustained remission: individual-level 5-year stability in anti-IL5/Rα biologic therapy response for severe asthma.**

Håkansson KEJ, Hansen S, Soendergaard MB, von Bülow A, Hilberg O, Bonnesen B, Johnsen CR, Lock-Johansson S, Dongo L, Borup MB, Vijdea R, Rasmussen LM, Schmid JM, Ulrik CS, Porsbjerg C, Bjerrum AS.Eur Respir J. 2026 Mar 12;67(3):2500926. doi: 10.1183/13993003.00926-2025. Print 2026 Mar.PMID: 41309267

Supplementary info

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6

Ann Emerg Med

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. 2026 Mar 11:S0196-0644(26)00072-7.

doi: 10.1016/j.annemergmed.2026.01.024. Online ahead of print.

Telemedicine Use and Outcomes Following Discharge From the Emergency Department, 2020-2022

Austin S Kilaru [1], Angira Mondal [2], Sophia Jesteen [3], Zhi Geng [2], Dane Isenberg [4], Hashem E Zikry [5], Zachary F Meisel [6]

Affiliations Expand

- PMID: 41817487

- DOI: 10.1016/j.annemergmed.2026.01.024

Abstract

Study objective: To describe the use of telemedicine for outpatient follow-up care after discharge from the emergency department (ED) in a large cohort of patients with commercial insurance or Medicare Advantage and determine whether telemedicine follow-up was associated with greater return hospitalizations compared with in-person care.

Methods: Using administrative claims data, we conducted a retrospective cohort study of adults discharged from the ED with congestive heart failure, diabetes, chronic obstructive pulmonary disease, or asthma, from 2020 to 2022. The primary outcome was modality of the first outpatient visit within 14 days, either in person or via telemedicine. We used multivariable logistic regression to examine patient characteristics associated with use of telemedicine compared with in-person follow-up. We also used time-to-event methods to estimate the risk of return hospitalization for patients who obtained telemedicine versus in-person follow-up.

Results: Among 147,561 patients discharged from the ED (mean age 63.9 years; 56.5% women), we found that 4,107 (2.8%) obtained telemedicine follow-up visits and 34,882 (23.6%) obtained in-person follow-up. An additional 7,487 (5.1%) patients were hospitalized prior to obtaining any follow-up. Use of telemedicine varied across conditions and was associated with younger age, female sex, more comorbidities, and ED visit complexity. Telemedicine was not associated with greater risk of return hospitalization compared with in-persnon follow-up.

Conclusion: ED patients used telemedicine for outpatient follow-up visits at low rates, with comparable rates of return hospitalization to those who obtained in-person follow-up. Future studies may examine focused interventions to deploy telemedicine to expand access to follow-up care for selected patients.

Keywords: Access to care; Care Coordination; Follow-up care; Return hospitalization; Telemedicine.

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. 2026 Mar 12:1-4.

doi: 10.1080/02770903.2026.2644875. Online ahead of print.

Critical Evaluation of Fluticasone Furoate/Umeclidinium/Vilanterol in Asthma Cough Management: Insights and Limitations from the COCOA Study

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Affiliations Expand

- PMID: 41817036

- DOI: 10.1080/02770903.2026.2644875

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Full text links

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J Allergy Clin Immunol Pract

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. 2026 Mar 9:S2213-2198(26)00184-4.

doi: 10.1016/j.jaip.2026.02.031. Online ahead of print.

Occupational Asthma without Nonspecific Bronchial Hyperresponsiveness

Virginie Doyen [1], Julien Godet [2], Jolanta Walusiak-Skorupa [3], Marta Wiszniewska [3], Joaquin Sastre [4], Marcela Valverde-Monge [4], Hille Suojalehto [5], Xavier Munoz [6], Christian Romero-Mesones [6], Vera van Kampen [7], Christian Eisenhawer [7], Gareth Walters [8], Vicky Moore [8], Paola Mason [9], Frédéric de Blay [10], Santiago Quirce [11], Ilenia Folletti [12], Catherine Rifflart [1], Olivier Vandenplas [13]

Affiliations Expand

- PMID: 41812903

- DOI: 10.1016/j.jaip.2026.02.031

Abstract

Background: The absence of nonspecific bronchial hyperresponsiveness (NSBH) has been documented in a substantial proportion of workers with occupational asthma (OA).

Objective: We investigated the clinical and inflammatory characteristics associated with the absence of baseline NSBH in a cohort of subjects with OA ascertained by a positive specific inhalation challenge (SIC).

Methods: A retrospective study was conducted among 1068 subjects who completed an SIC with various occupational agents at three tertiary centers.

Results: Among 377 subjects with a positive SIC, 63 (16.7%) did not exhibit baseline NSBH. Upon post-challenge assessment of these 63 subjects, 45 developed NSBH, while 18 still lacked demonstrable NSBH. Multivariate analysis revealed that quiescent asthma -defined by untreated asthma associated with the absence of airway obstruction- was the predominant clinical feature associated with undetectable NSBH at baseline (odds ratio: 3.59, 95% confidence interval: 1.86-6.93). Subjects with and without baseline NSBH exhibited similar rates of post-challenge increases in fractional exhaled nitric oxide ≥13 ppb (47.8% and 43.6%, respectively) and sputum eosinophil count ≥2% (72.2% and 74.2%, respectively). Baseline NSBH assessment identified positive SICs with a substantially lower sensitivity (68%) and negative predictive value (71%) among subjects with quiescent asthma (n=211) than among those (n=857) with active disease (87% and 88%, respectively).

Conclusions: The absence of NSBH does not allow OA to be ruled out without further investigation in subjects with quiescent asthma. On the other hand, a negative NSBH test has a high negative predictive value for OA among subjects with active disease.

Keywords: Airway hyperresponsiveness; Fractional exhaled nitric oxide; Occupational asthma; Specific inhalation challenge; Sputum eosinophils.

. 2026 Mar 9:S2213-2198(26)00187-X.

doi: 10.1016/j.jaip.2026.02.035. Online ahead of print.

Predictive Value of Serial Peak Expiratory Flow and Clinical Interview for Diagnosing Occupational Asthma in High-Molecular-Weight Exposure

Hormoz Nassiri Kigloo [1], Cathrine Lemiere [2], Hille Suojalehto [3], Jolanta Walusiak Skorupa [4], Eva Suarthana [5]

Affiliations Expand

- PMID: 41812902

- DOI: 10.1016/j.jaip.2026.02.035

No abstract available

Keywords: High Molecular Weight Agents; Occupational asthma; Peak expiratory flow; Predictive model.

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Review

Adv Ther

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. 2026 Mar 10.

doi: 10.1007/s12325-026-03512-8. Online ahead of print.

Inhaled Corticosteroid/Long-Acting β$_2$-Agonist Selection for Patients with Moderate-to-Severe Asthma: Considerations for Real-World Practice, A Narrative Review

John D Blakey [1 2], Lorenzo Cecchi [3], Christian Domingo [4], Tony D D'Urzo [5], Dave Singh [6 7], Manish Verma [8]

Affiliations Expand

- PMID: 41806279

- **DOI: 10.1007/s12325-026-03512-8**

Abstract

The current standard of maintenance care for patients with moderate-to-severe asthma is the use of inhaled corticosteroid/long-acting β_2-agonist (ICS/LABA) medications; some patients may also require additional therapies including long-acting muscarinic antagonists or biologics to establish disease control. Presently, there is a striking discrepancy between the positive outcomes reported in randomised clinical trials (RCTs) of these therapies and real-world outcomes that may be independent of treatment adherence. Patients with asthma included in RCTs are selected using stringent eligibility criteria, for example they have never been heavy smokers. Because current recommendations rely on results from such exclusive RCTs, this calls into question the extent to which these recommendations are applicable in daily practice. Therefore, generalising information from RCTs can be a difficult task for a number of reasons, including differences between ICS/LABAs, varied responses to medications among patients and the limited time busy general practitioners have to bridge the care gaps that exist. Factors in choosing a desirable ICS/LABA may include (a) considerations in clinical decision-making; (b) differences in pharmacokinetic and pharmacodynamic properties of ICS/LABA molecules, therapeutic index; (c) individual patient factors which may influence or facilitate successful adherence to treatment; (d) ease of inhaler use; (e) underlying inflammation; and (f) balancing efficacy and long-term safety, including adverse events and long-term exacerbation risk, based on data from both RCTs and real-world evidence. This review article discusses factors that healthcare professionals may utilise when selecting an ICS/LABA treatment for their patients, by considering data from RCTs and real-world evidence in addition to geographical/environmental, personal, and disease factors, which may also influence the decision process, such as availability and affordability.

Keywords: Asthma; Effectiveness; Inhaled corticosteroid; Long-acting β2-agonist; Real world evidence; Shared decision-making.

Plain language summary

This article outlines treatments used to control moderate-to-severe asthma. Data from clinical trials and real-world studies were included. Current asthma medicines include combinations that reduce inflammation and open the airways: inhaled corticosteroids with long-acting β_2-agonists (ICS/LABAs) plus other treatments for some individuals. Since there are many available combinations of ICS/LABAs (molecules and devices), selecting the most appropriate option requires important considerations from both patient and physician perspectives. In this paper, authors discuss these combinations alongside other important considerations, with the aim of encouraging doctors and patients to work together to choose the most appropriate treatment. Firstly, differences between ICS/LABA molecules mean they could have different effects in individual patients. This review discusses how physicians might identify these effects using different measures within the body. Secondly, findings from clinical trials and from patients in the 'real world', comparing specific ICS/LABA treatments, were discussed. Thirdly, balancing the safety of ICS/LABA treatments was explored along with how physicians can minimise the risk of side effects. Finally, individual patient requirements and

preferences were explored, as these are important factors when doctors are deciding which inhaler device patients should have. This may help to ensure patients take the medicine as prescribed. This review demonstrates the importance of considering several factors when choosing the most appropriate inhaled medication. It highlights the need to focus on reducing underlying inflammation to prevent future asthma attacks (exacerbations) and minimising side effects. This can assist patients in achieving their long-term disease management goals and supporting continued treatment adherence.

Conflict of interest statement

Declarations. Conflict of Interest: John Blakey reports, in the last 3 years, personal and institutional consulting fees or payment for educational activities from AstraZeneca, Boehringer Ingelheim, Chiesi, Sanofi, and GSK; support for attending meetings and/or travel from AstraZeneca and GSK; receipt of medical writing support from GSK and Teva; payment to their institution for advisory work from Asthma Australia. Lorenzo Cecchi reports consulting fees from GSK and Novartis; honoraria for lectures from AstraZeneca, Chiesi, Menarini, Novartis, Sanofi, Thermofisher, and GSK; support for attending meetings from Menarini; grants for scientific boards from GSK, FIRMA, Menarini, and Thermofisher. Christian Domingo declares having received financial aid for travel support and speakers' bureaus from ALK-Abello, Allergy Therapeutics, AstraZeneca, Chiesi, GSK, Hall Allergy, Inmunotek, Menarini Diagnostics, MSD, Novartis, Roxall, Sanofi, and Stallergenes. Tony D'Urzo has received research, consulting and lecturing fees from AstraZeneca, COVIS Pharma Canada, GSK, Sanofigenzyme, TEVA Canada, and Valeopharma Canada. Dave Singh has received sponsorship to attend and speak at international meetings, honoraria for lecturing or attending advisory boards from Adovate, Almirall, Anaveon, Apogee, Arcutis Biotherapeutics, Arrowhead, AstraZeneca, Belenos Biosciences, Bial, Celldex, Chiesi, Cipla, CONNECT Biopharm, Covis, DevPro Biopharma LCC, Elpen, Empirico, EpiEndo, Generate Biomedicines, GlaxoSmithKline, Glenmark, Jasper, Kinaset Therapeutics, KOLON, Kymera, Lupin, Melodia, Menarini, MicroA, OM Pharma, OrientEuroPharma, Recipharm, Revolo, RIGImmune Inc, Roche, Roivant Sciences, Sanofi, Sitryx, Synairgen, Tetherex, UCB, Upstream, Verona Pharma, Winward, Zura Bio, Zymeworks. Manish Verma is a GSK employee and holds financial equities in GSK. Ethical Approval: This article is based on previously conducted studies and does not contain any new studies with human participants or animals performed by any of the authors.

- **96 references**

Supplementary info

Publication typesExpand

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Cite

11

Can J Public Health

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. 2026 Mar 10.

doi: 10.17269/s41997-026-01160-7. Online ahead of print.

Body mass index and current asthma in adulthood: A cross-sectional study of the Canadian Community Health Survey (2017-2018)

Amrit Tiwana [1 2 3], Benjamin Zhang [1], Jennifer D Brooks [4]

Affiliations Expand

- PMID: 41806084

- DOI: 10.17269/s41997-026-01160-7

Abstract

in English, French

Objectives: Asthma is a common respiratory disease in Canada, representing a significant burden on the health of the population and the healthcare system. While studies have attributed an association between obesity and asthma, understanding of this relationship remains underexplored in the Canadian population. This study aims to describe the association between BMI and current asthma in adults living across Canada.

Methods: This study used cross-sectional data from the 2017-2018 Canadian Community Health Survey of individuals aged 18 years and older who reported currently having asthma. Current asthma was defined as having been previously diagnosed with asthma and experiencing asthma symptoms or asthma attacks in the past 12 months. Prevalence ratios (PRs) and 95% confidence intervals (CIs) were estimated using log-binomial regression, modelling the association between BMI (underweight/normal weight (< 25 kg/m^2), overweight (25- < 30 kg/m^2), and obese (≥ 30 kg/m^2)) and current asthma, adjusting for relevant sociodemographic and health factors.

Results: Of the 7090 individuals with asthma in this study, 3627 (51.2%) experienced current asthma. The prevalence of current asthma was similar in overweight individuals (PR = 1.00, 95%CI 0.95, 1.05) when compared to those in the underweight/normal weight category, while individuals with obesity had a 5% higher prevalence (PR = 1.05, 95%CI 1.01, 1.10) when compared to those in the underweight/normal weight category.

Conclusions: This study provides evidence for the association between obesity and an increased prevalence of current asthma among adults. Weight management, particularly for individuals with obesity, may be an important consideration in asthma control.

Keywords: Asthma; Body mass index; Canada; Cross-sectional studies; Obesity; Public health.

Conflict of interest statement

Declarations. Ethics approval: The study was approved by the University of Toronto's Research Ethics Board (#00047267). Consent to participate: Not applicable. Consent for publications: Not applicable. Conflict of interest: The authors declare no competing interests.

- **29 references**

Full text links

Cite

12

JCI Insight

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. 2026 Mar 10:e198712.

doi: 10.1172/jci.insight.198712. Online ahead of print.

Early life viral infection generates pathologic tissue resident memory cells that contribute to asthma-like disease

Emma E Brown [1], Jie Lan [1], Olivia B Parks [2], Li Fan [3], Dequan Lou [3], Alysia McCray [1], Lisa Mathews [4], Alexander J Wardropper [5], Anna Shull [6], Michelle L Manni [7], Hēth R Turnquist [4], Kong Chen [3], Taylor Eddens [1]

Affiliations Expand

- **PMID: 41805545**

- **DOI: 10.1172/jci.insight.198712**

Free article

Abstract

Viral lower respiratory tract infections are common early in life and are associated with long-term development of asthma, a chronic condition defined by reversible airflow obstruction secondary to inflammation. Understanding the immunologic mechanism connecting these two pathologies observed early in life becomes imperative to guide therapeutic measures. To investigate this connection, neonatal (day of life 4-6) or adult mice were infected with human metapneumovirus (HMPV) followed by a secondary HMPV infection 6 weeks later. Mice initially infected as neonates demonstrate increased mucus production, eosinophil recruitment, airway hyperresponsiveness, and Th2 T-cell differentiation following re-challenge compared to adult mice rechallenged with HMPV. Neonatal HMPV infection led to formation of Th2 clonally expanded tissue resident memory (TRM) T cells that were absent after adult HMPV. FTY720-mediated disruption of lymphocyte circulation demonstrated TRMs contribute to pathology. Local depletion of lung CD4+ T cells and JAK2-inhibition mitigated pathology. These findings suggest TRMs uniquely generated after early life viral infection can contribute to Th2-driven asthma pathology.

Keywords: Asthma; Immunology; Infectious disease; Pulmonology; T cells.

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BMJ Open

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. 2026 Mar 9;16(3):e108996.

doi: 10.1136/bmjopen-2025-108996.

Organ failure type in fatal and near-fatal anaphylaxis: a systematic review

Ben McKenzie [1 2 3], Stuart D Marshall [4], Lena Sanci [5], Jasmine Poonian [2], Rishabh Nair [2], Chris J Selman [4], Jo A Douglass [6 7]

Affiliations Expand

- PMID: 41802785

- PMCID: PMC12983974

- DOI: 10.1136/bmjopen-2025-108996

Abstract

Objectives: Anaphylaxis is a sudden onset multiorgan allergic reaction that infrequently but regularly causes fatalities which may be preventable with appropriate organ support. There is limited data about the type of organ failure leading to death or near-fatal episodes resulting in permanent neurological disability. To assist clinicians facing anaphylaxis in diverse clinical settings, we aimed to quantify the frequency of organ failure type contributing to death or neurological disability from anaphylaxis according to allergen trigger.

Design: Systematic review of published peer-reviewed literature.

Data sources: Three databases were searched to January 2025: MEDLINE from 1946, Embase from 1947 and Web of Science from 1900.

Eligibility criteria: Studies were eligible if they contained data about the type of clinical deterioration during anaphylaxis resulting in death or permanent neurological disability. No language restriction was implemented. Exclusion criteria were: hydatid anaphylaxis; five or more stings from an insect; death from acute atheromatous myocardial infarction and where anaphylaxis was only a differential diagnosis.

Data extraction and synthesis: We extracted information using pre-specified criteria to determine the primary organ failure involved: either upper airway obstruction, lower respiratory obstruction (bronchospasm) or cardiovascular failure. Baseline demographics including age and asthma status were collected along with the allergen trigger, time course and treatment. We reported frequencies according to allergen trigger for case reports and a narrative analysis of case series weighted by risk of bias assessment.

Results: 277 case studies and 14 case series were identified reporting 896 deaths and 28 disabilities. There were no other study types. Separate case series and case report analyses produced similar findings despite varying quality of published clinical data. Respiratory failure was the most common primary organ failure in case reports (73.4%), whereas primary cardiovascular failure was reported in 26.6% of case reports. Primary organ failure type differed in frequency by allergen trigger and was primarily caused by: respiratory failure when food was the allergen trigger (95%); respiratory failure in 65% of cases of drug allergen triggers; cardiovascular failure in 65% venom allergen triggers.

Conclusion: In this review, respiratory failure (primarily bronchospasm) is the most common primary physiological event leading to decompensation in fatal anaphylaxis, particularly for food and drug allergen deaths. Emphasising the significance of respiratory involvement, particularly from bronchospasm, in both patient and clinician facing anaphylaxis treatment guidelines may help further reduce the risk of fatalities. Prospective anaphylaxis management registries or whole population data are needed to better capture primary organ failure present in fatal anaphylaxis to validate this finding.

Prospero registration number: CRD42023434206.

Keywords: ACCIDENT & EMERGENCY MEDICINE; ANAESTHETICS; Allergy; Asthma; INTENSIVE & CRITICAL CARE; Paediatric intensive & critical care.

Conflict of interest statement

Competing interests: All authors have completed the Unified Competing Interest form (available on request from the corresponding author) and declare: support from the Australian Government funded National Allergy Centre of Excellence for the submitted work; BM's son died from anaphylaxis; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

- **302 references**
- **2 figures**

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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14

BMC Pediatr

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. 2026 Mar 9.

doi: 10.1186/s12887-026-06683-z. Online ahead of print.

Prevalence of anemia and its association with asthma control in school-aged children: a cross-sectional study in Karachi, Pakistan (2025)

Burhanuddin Shabbir [1], Muhammad Osama Sheikh [1], Aneela Pasha [1], Shahiryar Khan [1], Ana Parveen [1], Fyezah Jehan [2]

Affiliations Expand

- **PMID: 41796284**

- DOI: 10.1186/s12887-026-06683-z

Free article

No abstract available

Keywords: Anemia; Asthma; Control of asthma; Karachi.

Conflict of interest statement

Declarations. Ethical Approval and consent to participate: This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki after approval by the Ethical Review Committee of the Aga Khan University Hospital (ERC reference # 2025-8321-33935), school authorities and the District Health Officers (Primary and Secondary). Parental consent and assent was obtained prior to enrollment in the study. Consent for publication: The authors consent to the publication of this paper. All authors have read and approved the final manuscript. This manuscript has not been published and is not under consideration for publication elsewhere. Competing interests: The authors declare no competing interests.

- 30 references

Full text links

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J Asthma

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. 2026 Mar 13:1-9.

doi: 10.1080/02770903.2026.2633364. Online ahead of print.

Tezepelumab is effective in older patients with type 2 severe asthma, and baseline serum cytokine levels may be useful in predicting the efficacy of tezepelumab

Taku Nishimura [1 2], Maho Suzukawa [1], Nobuharu Oshima [1], Hiroyuki Tashimo [1], Masaaki Minegishi [1], Takafumi Kato [1 2], Hidenori Kage [2]

Affiliations Expand

- PMID: 41712271

- DOI: 10.1080/02770903.2026.2633364

Abstract

Objective: Tezepelumab, a monoclonal antibody targeting thymic stromal lymphopoietin (TSLP), is effective in treating severe asthma. However, the factors predicting the therapeutic efficacy of tezepelumab remain unclear. This study examined the background and serum cytokine levels of patients with severe asthma who were treated with tezepelumab to identify the factors that predict therapeutic efficacy.

Methods: Eighteen patients with severe asthma who received tezepelumab were enrolled in this small cohort. Blood tests, pulmonary function tests, and questionnaires were administered at baseline and after 1, 2, 4, 6, and 12 months of treatment. Responders, i.e. participants with a Global Evaluation of Treatment Effectiveness score of "good" or "excellent" 4 months after treatment initiation, were included in the analysis.

Results: There were twelve responders and six non-responders. Responders were older than non-responders, and treatment was significantly more effective in patients with type 2 asthma than in those with non-type 2 asthma. At baseline, responders had significantly lower levels of PDGF-BB and ST2/IL-33R than non-responders (PDGF-BB: responders, 7802.4 ± 1658.8 pg/mL, non-responders, 9530.0 ± 1498.5 pg/mL, $p = 0.048$; ST2/IL-33R: responders, 13732.8 ± 4472.3 pg/mL, non-responders, 22168.5 ± 5699.3 pg/mL, $p = 0.003$).

Conclusions: Tezepelumab was more effective in older patients with type 2 asthma than in those with non-type 2 asthma. Furthermore, baseline serum ST2/IL-33R levels, a potential target for new asthma treatments, may be useful in predicting the efficacy of tezepelumab. However, larger studies are needed to validate our findings.

Keywords: PDGF-BB; ST2/IL-33R; Tezepelumab; asthma; biological agent; cytokine; thymic stromal lymphopoietin.

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Eur Respir J

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. 2026 Mar 12;67(3):2500926.

doi: 10.1183/13993003.00926-2025. Print 2026 Mar.

Long-term efficacy but rare sustained remission: individual-level 5-year stability in anti-IL5/Rα biologic therapy response for severe asthma

Kjell Erik Julius Håkansson [1], Susanne Hansen [2], Marianne Baastrup Soendergaard [2], Anna von Bülow [2], Ole Hilberg [3], Barbara Bonnesen [4], Claus Rikard Johnsen [5], Sofie Lock-Johansson [6], Lycely Dongo [7], Maria Bisgaard Borup [6], Roxana Vijdea [8], Linda Makowska Rasmussen [5], Johannes Martin Schmid [9], Charlotte Suppli Ulrik [10], Celeste Porsbjerg [2], Anne Sofie Bjerrum [9]

Affiliations Expand

- PMID: 41309267

- DOI: 10.1183/13993003.00926-2025

Abstract

Background: For a decade, anti-interleukin-5/receptor α (IL5/Rα) has been available to treat severe asthma, with marked reductions in exacerbation rates and maintenance oral corticosteroid burden. However, little is known about long-term, real-world sustained remission. We aimed to assess the stability of response to anti-IL5/Rα over 5 years.

Methods: All Danish adults initiating anti-IL5/Rα for severe asthma during January 2016 through June 2020 were included. Five-domain remission (no exacerbations, no maintenance oral corticosteroid, forced expiratory volume in 1 s (FEV_1) >80% predicted, Asthma Control Questionnaire score <1.5 and no switch to non-anti-IL5/Rα) was assessed annually for 5 years.

Results: In total, 482 patients were included (median age 56 years, 48% female). At baseline, 13.9% fulfilled the criteria of no exacerbations, 66.0% of no maintenance oral corticosteroid, 29.7% of FEV_1 >80% predicted and 26.5% of Asthma Control Questionnaire score <1.5. At year 5, 18.7% had switched to a non-anti-IL5/Rα biologic.The overall remission rate was 17.6-23.1% over 5 years. However, remission was found to be dynamic; approximately 15.2% of patients in remission per annum did not fulfil the remission criteria the subsequent year. At least 1 year of remission was achieved by 37.4% of patients, with some patients first achieving remission during year 2 or 3.Only 7.7% achieved sustained 5-year remission. Failure to achieve remission was driven by permanently impaired FEV_1 and persistent uncontrolled symptoms. 5-year sustained freedom from exacerbations and maintenance oral corticosteroid use was seen in 33.6% of patients.

Conclusions: Patients with severe asthma respond well to anti-IL5/Rα, with substantial improvements across all domains over 5 years. Remission is a dynamic state with intermittent relapses, and sustained long-term remission is rare using current domains.

Conflict of interest statement

Conflict of interest: K.E.J. Håkansson reports personal fees from AstraZeneca, Chiesi, GSK, Sanofi and Teva. M.B. Soendergaard reports personal fees from AstraZeneca, GSK and ALK-Abello. A. von Bülow reports personal fees from AstraZeneca, Novartis and GSK. C.S. Ulrik reports personal fees from AstraZeneca, GSK, Teva, Chiesi, Sanofi, Regeneron, Boehringer Ingelheim, Orion Pharma, Novartis, ALK-Abello, Mundipharma, Berlin Chemie, Pfizer, TAKEDA, Roche, Covis Pharma, Hikma Pharmaceuticals, Novo Nordisk and Actelion. C. Porsbjerg reports personal fees and research support from AstraZeneca, GSK, Teva, Chiesi, Sanofi, Regeneron, Novartis and ALK-Abello. A.S. Bjerrum reports personal fees from AstraZeneca, Novartis, GSK, Sanofi and Teva. The remaining authors have no potential conflicts of interest to disclose.

Comment in

- **Time to establish a consensus definition of clinical remission distinct from well-controlled asthma.**

Beasley R, Noble J.Eur Respir J. 2026 Mar 12;67(3):2502384. doi: 10.1183/13993003.02384-2025. Print 2026 Mar.PMID: 41819542 No abstract available.

- **Cited by 1 article**

Supplementary info

MeSH terms, SubstancesExpand

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17

Randomized Controlled Trial

Thorax

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. 2026 Mar 13;81(4):344-356.

doi: 10.1136/thorax-2025-222970.

Efficacy of fentanyl buccal tablet and morphine for exertional dyspnoea in patients with cancer: a double-blind, placebo-controlled, randomised clinical trial

David Hui [1 2 3], Soraira Pacheco [4], Linh Nguyen [4], Kristofer Jennings [5], Vera de la Cruz [6], Penny Stanton [6], Raul Laureano [6], Amy Ontai [6], Donald Mahler [7 8], Eduardo Bruera [6]

Affiliations Expand

- PMID: 41115797

- DOI: 10.1136/thorax-2025-222970

Abstract

Introduction: Exertional dyspnoea is highly debilitating. Previous single-dose studies found that prophylactic administration of fentanyl buccal tablet (FBT) improved exertional dyspnoea. In this randomised trial, we compared daily use of prophylactic FBT, oral morphine and placebo on exertional dyspnoea over 14 days.

Methods: This parallel, double-blind, randomised clinical trial enrolled opioid-tolerant patients with cancer and exertional dyspnoea. After a 5-day observation period, patients were randomised (1:1:1) to receive FBT, morphine or placebo 30 min before daily structured activity for 14 days. Shuttle walk tests (SWTs) were conducted on days 1/5/8/12/15/19. The primary outcome was change in modified Borg Scale dyspnoea intensity during SWTs from day 5 to day 19, analysed using a mixed effects model with treatment, time and treatment×time interaction. SWT distance was a key secondary outcome.

Results: 67 patients were enrolled and 56 (84%) were randomised. Over the 14-day blinded phase, we observed a significant decrease in the magnitude of dyspnoea intensity change during the SWTs in all three groups, with no significant difference by treatment group (slope change from day 5 to day 19: FBT -2.2 (95% CI -2.9 to -1.6); morphine -1.9 (95% CI -2.7 to -1.2); placebo -2.2 (95% CI -3 to -1.4); time effect p<0.001, treatment×time effect p=0.79). SWT distance increased significantly over time (FBT +93 m; morphine +84 m; placebo +76 m) but did not differ by treatment (p=0.71). Few adverse events were reported.

Conclusion: All three groups reported less dyspnoea while walking farther; however, no difference was detected between opioids and placebo. These findings should be considered preliminary given the underpowered sample.

Trial registration number: NCT04188418.

Keywords: Exercise; Palliative Care; Perception of Asthma/Breathlessness.

Conflict of interest statement

Competing interests: None declared.

Supplementary info

Publication types, MeSH terms, Substances, Associated dataExpand

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

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Int Arch Otorhinolaryngol

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. 2026 Mar 11;30(1):1-7.

doi: 10.1055/s-0045-1811517. eCollection 2026 Jan.

Characteristics of Ear, Nose, and Throat Comorbidities among Children with Allergic Rhinitis

Siwanut Rattanaphibunsiri [1], Orathai Jirapongsananuruk [2], Kitirat Ungkanont [1], Archwin Tanphaichitr [1], Navarat Kasemsuk [1], Vannipa Vathanophas [1]

Affiliations Expand

- PMID: 41821956
- PMCID: PMC12978945
- DOI: 10.1055/s-0045-1811517

Abstract

Introduction: Children with allergic rhinitis (AR) may develop comorbidities due to chronic inflammation affecting other systems. Surveillance, early detection, and prompt treatment are essential in managing these conditions.

Objectives: To investigate the prevalence and associated characteristics of ear, nose, and throat (ENT) disorders, particularly adenoid hypertrophy (AH), tonsillar hypertrophy (TH), otitis media with effusion (OME), and rhinosinusitis (RS) in children with AR. Also, to assess potential risk factors associated with these comorbidities.

Methods: A total of 100 children aged 2 to 14 years with AR were enrolled. All patients underwent history taking, physical examination, and lateral skull X-ray processes by a pediatric otorhinolaryngologist.

Results: There was a significantly higher incidence of TH in patients with moderate-to-severe persistent AR (54.5%) compared with those with mild intermittent AR (17.2%; $p = 0.006$). Furthermore, AH was observed in 51.7% of children with mild intermittent AR, significantly more than in other severity groups ($p = 0.037$). The prevalence of TH, AH, OME, and RS was 41, 39, 8, and 1%, respectively. Additionally, OME was more common in suburban residents (14.3%) than in urban dwellers (2%; $p = 0.029$). The most common aeroallergen was the house dust mite *Dermatophagoides pteronyssinus* (89%).

Conclusion: The most common ENT comorbidity in AR children is TH, being related substantially to the level of severity. The most prevalent aeroallergen was found to be house dust mite. The pattern of association between AR and ENT comorbidities highlights the essence of our research findings.

Keywords: adenoid; allergic; otitis media with effusion; rhinitis; rhinosinusitis; tonsil.

Conflict of interest statement

Conflict of Interests The authors have no conflict of interests to declare.

- 23 references
- 1 figure

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2

Pediatr Dermatol

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. 2026 Mar 9.

doi: 10.1111/pde.70170. Online ahead of print.

Initial Management of Infantile Atopic Dermatitis in Primary Care Settings and Predictors of Topical Steroid Potency Escalation

Moira Shea [1], Carter Haag [1], Emile Latour [1 2], Eric L Simpson [1]

Affiliations Expand

- PMID: 41802924

- DOI: 10.1111/pde.70170

Abstract

Background/objectives: Atopic dermatitis (AD) affects 15%-20% of children worldwide, with most treatment in primary care. Initial management of new-onset infantile AD remains poorly characterized.

Methods: This retrospective cohort study included 3053 patients aged 0-2 years diagnosed with AD at pediatric and family medicine clinics at a single institution. Demographic, comorbidities, and treatment information were collected.

Results: The mean age was 0.6 years at initial diagnosis; 54.4% were male. Of 3053 patients, 1015 (33.2%) had ≥ 1 additional atopic comorbidity or complication, most commonly asthma (28.8%), allergy (33.4%), allergic rhinitis (34.7%), conjunctivitis (41.8%), and bacterial infection (6.7%). At diagnosis, 66.8% (2038/3053) received prescription therapy, mostly topical (57.3%, 1743/3043 initial prescriptions). Common treatments at visit 1 (V1) included topical corticosteroid (TCS, 48.4%, 1472/3043 prescriptions), topical antifungal (4.4%, 134/3043), oral antihistamine (4.0%, 121/3043), while only 0.2% (7/3043) received topical calcineurin inhibitors. TCS potency was predominantly low (71.5%, 1053/1472), with medium (27.3%, 402/1472) and high (1.2%, 17/1472) less frequent. 78/1261 children (6.2%) changed potency of TCS between V1 and visit 2 (V2), with 5.2% escalating and 1.0% de-escalating therapy. Escalation was significantly associated with existing atopic comorbidities/complications (OR 3.15, $p < 0.001$).

Conclusions: Fewer than half of children received anti-inflammatory prescriptions at their initial AD visit. More research is needed to investigate whether this finding represents mild cases or undertreatment. Children with allergic comorbidities were more likely to require escalation to stronger TCS, warranting future exploration of the relationship between initial therapies and disease severity or comorbidity development.

Keywords: atopic comorbidity; atopic dermatitis; primary care; topical corticosteroid; treatment escalation.

- 18 references

Full text links

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3

Int Arch Allergy Immunol

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. 2026 Mar 9:1-23.

doi: 10.1159/000551372. Online ahead of print.

Allergen Sensitization in Atopic Dermatitis: Distinction from Controls and Prediction of Respiratory Allergies

Duy-Bo Nguyen, Anh-Tuan Dinh-Xuan, Thanh Huyen Thuc, Le Nam Nguyen, Ha Phuong Vo, Thi Mai Vu, Thi Hai Yen Pham, Quynh Anh Nguyen, Thi Minh Nguyet Nguyen, Thi Minh Huong LE, Nhat Tan Tran, Van Hien Dam, Quynh Trang Tran, Thanh Nguyen Phan, Chi Hieu Chu, Timothy Craig, Sheryl Van Nunen, Van Dinh Nguyen

- PMID: 41802109

- DOI: 10.1159/000551372

Free article

Abstract

Background: Atopic dermatitis (AD) is a common inflammatory skin condition characterized by epidermal barrier dysfunction and immune dysregulation, affecting both children and adults.

Objectives: This study aimed to determine the prevalence of common allergen sensitizations in patients with AD, compared with controls without allergic diseases, and to identify those associated with an increased risk of asthma or allergic rhinitis.

Methods: We conducted a cross-sectional study including patients with atopic dermatitis and age- and sex-matched controls selected by propensity score matching from the Center of Allergy and Clinical Immunology, Vinmec Times City Hospital. Total IgE levels and specific IgE sensitization to common allergens were documented using an extract-based multiplex assay.

Results: Both the AD and control groups each comprised 452 patients and were comparable in age, median (IQR, range): 7 (1-29, 0-84) and sex distribution (51.11% female). Sensitization to at least one allergen was observed in 59.51% of patients, with a mono-sensitization rate of 11.73% and a poly-sensitization rate of 47.79%. House dust mites had the highest sensitization rates among AD patients in our

study, with sensitization rates for Dermatophagoides pteronyssinus, Dermatophagoides farinae, and Blomia tropicalis at 29.65%, 26.99%, and 11.5%, respectively. Eggs and milk were the most common food allergens, with sensitizations rates of 20.58% and 12.61%, respectively. Although sensitization rates were high, the prevalence of true clinical allergy was much lower, underscoring the need for cautious interpretation of test results in conjunction with clinical symptoms. Age-related differences were evident: younger children were more often sensitized to food allergens, older children and adolescents to respiratory allergens, and elderly patients to cockroach, and Candida albicans. Additionally, sensitization to C. albicans, D. pteronyssinus, D. farinae, cat dander, dog dander, rice grain, barley flour, and rye flour was significantly more frequent in patients with AD compared to individuals with no allergic diseases. Such sensitization was also associated with a higher risk of respiratory allergic comorbidities, suggesting the potential role of these allergens as distinctive markers of atopy.

Conclusion: This study highlights the importance of understanding allergen sensitization in patients with AD to optimize management strategies, particularly in Vietnam, where house dust mite sensitization is highly prevalent. Allergen avoidance and allergen-specific immunotherapy could be beneficial as add-on therapies for AD.

Full text links

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Cite

chronic cough

1

Ann Med

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. 2026 Dec;58(1):2637260.

doi: 10.1080/07853890.2026.2637260. Epub 2026 Mar 11.

Cross-cultural validation and reliability of the Leicester Cough Questionnaire in a Danish population

Frederik Foldager [1 2], Christine Krogsgaard Schrøder [1 2 3], Tatiana Jensen [1 4], Line Gangelhof Lauritsen [1 4], Janne Hastrup Jensen [5], Linette Marie Kofod [6 7], Jeanett Guldager Olsen [8], Benedicte Mechlenburg [9], Arietta Spinou [10 11], William Poncin [12], Inger Mechlenburg [1 2 4 13]

Affiliations Expand

- PMID: 41814680

- PMCID: PMC12983802

- DOI: 10.1080/07853890.2026.2637260

Abstract

Background: Chronic cough markedly impairs health-related quality of life (HRQoL). The Leicester Cough Questionnaire (LCQ) is widely used to assess cough burden across physical, psychological, and social domains; however, no validated Danish version is available.

Materials and methods: The LCQ was translated and culturally adapted into Danish in accordance with COSMIN guidelines and was approved by the original developers. Forty-two clinically stable patients with chronic cough (mean age 70.8 years; 67% male) completed baseline and retest questionnaires at a median of 28 days (IQR 21-42). Internal consistency was examined with Cronbach's alpha. Test-retest reliability was assessed using intraclass correlation coefficients (ICC), standard error of measurement (SEM), and minimal detectable change (MDC).

Results: The LCQ-DK demonstrated excellent internal consistency (Cronbach's alpha = 0.96 total; 0.84-0.92 domains). Test-retest reliability was high (ICC = 0.90, 95% CI: 0.79-0.95 total; 0.86-0.89 domains). SEM was 1.14 points (8%) and MDC 3.16 points (23%) for the total score. No floor or ceiling effects were seen for the total score, though ceiling effects up to 12% occurred within domains.

Conclusion: The LCQ-DK demonstrates high reliability following cross-cultural adaptation and supports group-level assessment of HRQoL in Danish-speaking patients with chronic cough for clinical and research use.

Keywords: Leicester Cough Questionnaire; chronic cough; cross-cultural adaptation; internal consistency; reliability; translation.

Conflict of interest statement

No potential conflict of interest was reported by the author(s).

- 26 references

- 2 figures

Supplementary info

Publication types, MeSH termsExpand

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Cite

2

Ann Med

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. 2026 Dec;58(1):2638047.

doi: 10.1080/07853890.2026.2638047. Epub 2026 Mar 9.

Skin hypersensitivity in chronic cough patients: symptom profiles and psychosomatic correlates

Tongyangzi Zhang [1], Heng Wu [2], Haodong Bai [1], Jiguang Wu [1], Lili Zhang [3], Rongrong Li [3], Yiqing Zhu [1], Bingxian Sha [1], Jiaying Yuan [1], Yaxing Zhou [1], Xianghuai Xu [1], Li Yu [1]

Affiliations Expand

- PMID: 41802229

- PMCID: PMC12973777

- DOI: 10.1080/07853890.2026.2638047

Abstract

Background: Cough hypersensitivity syndrome (CHS) is a characteristic of patients with chronic cough (CC). Sensitive skin syndrome (SSS), which is characterised by cutaneous pain and pruritus, may share neural hypersensitivity mechanisms with CHS. This study

aimed to determine the co-morbidities, clinical profiles, and psychosomatic correlates in CC patients.

Methods: Two hundred CC patients were enrolled in this prospective cohort study. SSS was diagnosed according to established guidelines, which required the presence of subjective symptoms induced by minimal stimuli with at least one of the following positive criteria: Sensitive Scale-10 score > 13; Sensitive Scale-14 score > 18; lactic acid sting test score ≥ 3; or capsaicin test score ≥ 3. Assessments included cough severity, Visual Analogue Scale (VAS), capsaicin cough sensitivity, cough symptom score, Leicester cough questionnaire (LCQ), and psychological evaluations.

Results: Among CC patients, 44.5% (89/200) had SSS with a higher prevalence in refractory/unexplained CC (RU-CC) patients compared to non-RU-CC patients (63.24% vs. 34.85%; $p < 0.001$). SSS patients exhibited heightened cough sensitivity (lower C2/C5 thresholds; $p = 0.017/0.004$), higher VAS scores ($p = 0.026$), lower LCQ scores, and an elevated psychological burden compared to non-SSS patients. In addition, RU-CC patients with SSS had superior cough responses to neuromodulators than non-SSS patients (LCQ improvement: 2.59 ± 2.36 vs. 1.26 ± 2.53; $p = 0.037$; response rate: 79.3% vs. 44.4%; $p = 0.029$).

Conclusion: SSS was identified in a clinically relevant subset of CC patients (especially those with RU-CC) and correlated with neural hypersensitivity and psychological distress. Early recognition of SSS in patients with CC and the early introduction of neuromodulators may offer greater therapeutic benefits and improve patient outcomes.

Keywords: Chronic cough; neuromodulator; psychosomatic co-morbidity; refractory chronic cough; sensitive skin syndrome.

Conflict of interest statement

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

- 54 references
- 5 figures

Supplementary info

MeSH terms, SubstancesExpand

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Cite

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

1

Review

Zhonghua Jie He He Hu Xi Za Zhi

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. 2026 Mar 12;49(3):356-362.

doi: 10.3760/cma.j.cn112147-20251110-00698.

[Annual progress in the clinical management and research of bronchiectasis 2025]

[Article in Chinese]

D Y Wu [1], Y T Pan [2], P P Zhang [2], J F Xu [3]

Affiliations Expand

- **PMID: 41820045**

- **DOI: 10.3760/cma.j.cn112147-20251110-00698**

Abstract

in English, Chinese

This review provides a concise overview of research advances in bronchiectasis between October 1, 2024 and September 30, 2025. The management of bronchiectasis is increasingly moving toward precision medicine. Recent studies have further elucidated the interplay between the airway microbiome and host

immunity, highlighting the central roles of microbial diversity and inflammatory networks driven by immune cells. Characterized by neutrophilic inflammation, type 2 helper T-cell responses, or specific microbial communities, distinct endotypes and phenotypes have been identified, paving the way for individualized therapeutic strategies. Innovations in diagnostic technologies have significantly enhanced the objectivity and accuracy of disease evaluation, risk stratification, and etiological diagnosis. Breakthroughs have also been made in therapeutic strategies: dipeptidyl peptidase-1 inhibitors targeting neutrophilic inflammation have demonstrated potential to delay disease progression in clinical trials. Management strategies that address prognostically relevant risk factors and comorbidities have also become more clearly defined. Future efforts to integrate multidimensional biological data for identifying treatable traits will be critical for achieving precision management and improving long-term outcomes in bronchiectasis.

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ERJ Open Res

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. 2026 Mar 9;12(2):00719-2025.

doi: 10.1183/23120541.00719-2025. eCollection 2026 Mar.

Design and rationale of the AIR-NET trial: a randomised, open-label, multifactorial, multicentre, adaptive platform trial using a range of repurposed anti-inflammatory treatments to improve outcomes in patients with bronchiectasis within the EMBARC clinical research network

Merete B Long [1], Jaa Ming New [1], Jamie Stobo [1], Margaret Band [2], Fiona McLaren-Neil [2], Rebecca Hull [1], Amy Gilmour [1], Holly Lind [1], Eve McIntosh [1], Rachel Galloway [1], Zsofia Eke [1], Bridget Harris [3], Aran Singanayagam [4], Anand Shah [5 6], Jeffrey Huang [1], Tom Wilkinson [7], Michael R Loebinger [6 8], Charles S Haworth [9], Sanjay H Chotirmall [10 11], Anthony De Soyza [12], James D Chalmers [1]

Affiliations Expand

- **PMID: 41809869**

- **PMCID: PMC12969703**

- **DOI: 10.1183/23120541.00719-2025**

Abstract

Background: Neutrophilic airway inflammation is associated with disease severity and exacerbation frequency in bronchiectasis. Neutrophil protease inhibition significantly reduced exacerbation rates in phase II and III trials in bronchiectasis, highlighting this disease feature as an important therapeutic target. Additional neutrophil targeting therapeutics are needed to reduce the burden of the disease. Herein, we describe the protocol for the AIR-NET trial, the first randomised, open-label, multifactorial, multicentre, adaptive platform trial for people with bronchiectasis, run *via* the EMBARC (European Multicentre Bronchiectasis Audit and Research Collaboration) network, to investigate the safety and efficacy of several repurposed anti-inflammatory treatments.

Methods and analysis: Participants with bronchiectasis confirmed by computed tomography, daily sputum production and evidence of active airway neutrophilic inflammation (based on a positive lateral flow test for neutrophil elastase (NE) activity), across 10 sites in the UK, will be randomised to one of several repurposed drugs with published evidence of effects on neutrophilic inflammation and acceptable safety profile (oral dose: disulfiram 400 mg once daily; dipyridamole 200 mg twice daily; doxycycline 100 mg once daily; n=42 per arm) or usual care, according to arm-specific eligibility criteria, and treated for 28 days. New arms will be added to the trial through an adaptive design. The primary end-point is change from baseline in sputum NE activity (a validated biomarker and surrogate of exacerbation risk) at day 28. Key secondary end-points include time-to-first exacerbation, quality of life questionnaires, neutrophil function and safety.

Summary: AIR-NET will establish a multi-centre network with integrated clinical and translational capabilities for the investigation of therapies in bronchiectasis aiming to identify key anti-inflammatory mechanisms and effective re-purposed treatments.

Conflict of interest statement

Conflict of interest: A. Singanayagam reports honoraria for speaking from AstraZeneca and Insmed. A. Shah reports grants from Pzifer, Gilead and AstraZeneca; advisory board or speaker fees from Mundipharma, Pfizer, AstraZeneca, Insmed; and is supported by an MRC centre grant (MR/X020258/1). T. Wilkinson declares grants and fees from AstraZeneca, Bergenbio, Boehringer Ingelheim, Chiesi, GSK, Janssen, Olam, MMH, Synairgen, Union Chimique Belge, Valneva. M.R. Loebinger reports Participation on advisory boards, payment for lectures or consultancy fees from Armata, 30 Technology, AstraZeneca, Parion, Insmed, Chiesi, Zambon, Electromed, Recode, Boehringer Ingelheim, Ethris, Mannkind, AN2 Therapeutics. C.S. Haworth reports grants or personal fees from 30 Technology, AstraZeneca, BiomX, Chiesi, Infex, Insmed, LifeArc, Pneumagen, Vertex and Zambon. S.H. Chotirmall serves on advisory boards for CSL Behring, Boehringer Ingelheim, Sanofi, Pneumagen Ltd, Zaccha Pte Ltd; Serves on Data and Safety Monitoring Boards for Inovio Pharmaceuticals and Imam Abdulrahman Bin

Faisal University; and reports ecture fees from AstraZeneca, Chiesi Farmaceutici. A. De Soyza reports grants or contracts from GSK, 30 Technology, Sanofi; consulting fees from 30 Technology, Insmed, AstraZeneca, Sanofi; and payment or honoraria from AstraZeneca, Bayer, GSK, Insmed, Zambon, Sanofi, Fisher & Paykel, Inogen. J.D. Chalmers reports grants or contracts from AstraZeneca, Boehringer Ingelheim, Chiesi, Grifols, Genentech, Gilead, Insmed, Trudell; consulting fees from Janssen, Pfizer, AstraZeneca, GSK, Grifols, Boehringer Ingelheim, Antabio, Zambon, Chiesi, Insmed, Novartis; leadership roles with the European Respiratory Society; and is serving editorial board member of ERJ Open Research, and Chief Editor of the European Respiratory Journal. M.B. Long is a serving editorial board member of ERJ Open Research. All other authors report no conflicts of interest.

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BMC Med

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. 2026 Mar 10.

doi: 10.1186/s12916-026-04780-5. Online ahead of print.

PCDSOS: a novel clinical predictive tool for screening primary ciliary dyskinesia in adult bronchiectasis patients-a multicenter derivation and external validation study

Wangji Zhou [#1,2], Lin Wang [#3], Qiaoling Chen [1], Yaqi Wang [1], Haiyu Pang [4], Anhui Guo [5], Aohua Wu [1], Xueqi Liu [1], Jinrong Dai [1], Shuzhen Meng [1], Rongchun Wang [6], Danhui Yang [3], Yaping Liu [7], Weiguo Zhu [5], Kai-Feng Xu [1,2], Xue Zhang [8], Hong Luo [9], Xinlun Tian [10,11]

Affiliations Expand

- PMID: 41803868

- DOI: 10.1186/s12916-026-04780-5

Free article

Abstract

Background: Primary ciliary dyskinesia (PCD) is a rare but underdiagnosed genetic cause of adult bronchiectasis, with current predictive tools (e.g., PICADAR, NA-CDCF) primarily validated in children and lacking adult-specific predictors (e.g., subfertility). This study aimed to develop and validate a practical tool (PCDSOS) for PCD screening in adult bronchiectasis.

Methods: Derivation group (n = 287) from Peking Union Medical College Hospital (2013-2025) and validation group (n = 107) from The Second Xiangya Hospital (2016-2024) were included. All patients completed ≥ 1 PCD diagnostic test (nasal nitric oxide, whole-exome sequencing, transmission electron microscopy, or high-speed video microscopy analysis). Logistic regression was used to develop PCDSOS, with performance assessed by AUC, calibration curve, and decision curve analysis.

Results: Existing tools showed reduced accuracy in adults (AUC: 0.76-0.85 vs. 0.84-0.98 in original studies). PCDSOS included 6 predictors: pulmonary atelectasis/lobectomy in middle lobe/lingula (P, 2 points), neonatal chest symptoms (C, 2 points), organ laterality defects (D, 5 points), chronic sinusitis (S, 2 points), chronic otitis media/hearing loss from childhood (O, 1 point), and subfertility (S, 1 point). At cutoff = 3, PCDSOS had sensitivity 0.86, specificity 0.76 (derivation cohort, AUC = 0.90) and sensitivity 0.90, specificity 0.67 (validation cohort, AUC = 0.92). A free web-based version of PCDSOS for automated scoring is available to facilitate clinical application.

Conclusions: PCDSOS outperforms existing tools in adult bronchiectasis, providing a cost-effective screening strategy to identify patients requiring further PCD diagnostic testing-critical for preventing irreversible lung damage and guiding genetic counseling.

Keywords: Primary ciliary dyskinesia; Predictive tool; Diagnostic score.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: The study was approved by the Institutional Review Boards of PUMCH (approval no. I-24PJ1848) and The Second Xiangya Hospital (approval no. LYEC2024-K0225) and was conducted in accordance with the tenets of the Declaration of Helsinki. All patients in this study signed the informed consent. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- **34 references**

Supplementary info

Grants and fundingExpand

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