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

1

Chest

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. 2026 Aug 14:S0012-3692(26)06346-4.

doi: 10.1016/j.chest.2026.07.5237. Online ahead of print.

Integrating Quantitative CT Biomarkers to Enhance COPD Detection in the HANSE Lung Cancer Screening Program

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Affiliations Expand

- **PMID: 42600771**

- **DOI: 10.1016/j.chest.2026.07.5237**

Abstract

Background: Lung cancer screening offers an opportunity to enhance COPD detection among adults exposed to tobacco smoke, yet guidance on CT-based referral for spirometry is limited.

Research question: Which low-dose CT emphysema threshold best identifies previously undiagnosed COPD in lung cancer screening subjects, and does the addition of quantitative airway biomarkers enhance detection?

Study design and methods: In adults undergoing lung cancer screening, we performed spirometry to identify previously undiagnosed COPD, defined by airflow obstruction (FEV1/FVC

<0.70) in current and former smokers with ≥10 pack-years. We quantified emphysema extent, airway wall thickness (Pi10), and airway branch count on low-dose CT using AI-based software and combined these measures with clinical characteristics, mainly smoking history and dyspnea, to develop an ensemble tree-based machine-learning model (Extreme Gradient Boosting) for COPD detection. A sensitivity analysis using the lower limit of normal (LLN) definition for FEV1/FVC was additionally performed.

Results: Among 5,014 screening subjects with available spirometry, 1,115 had previously undiagnosed COPD, corresponding to a prevalence of 22.2%. In subjects without known airway disease, emphysema alone at an optimised threshold of 5.1% showed moderate performance for COPD detection (AUC 0.69 [95% CI 0.67-0.72], accuracy 66%, PPV 44%), where 41% of subjects exceeded this threshold and met criteria for confirmatory spirometry. An integrated model combining emphysema, Pi10, airway branch count, and clinical characteristics significantly improved detection (AUC 0.83 [95% CI 0.80-0.86], accuracy 78%, PPV 59%) while reducing the proportion requiring confirmatory spirometry to 34%. In a sensitivity analysis using the LLN definition of COPD, the best-performing model achieved an AUC of 0.86 (95% CI 0.83-0.89), accuracy of 84%, and PPV of 53%, while referring 22% for confirmatory spirometry.

Interpretation: An integrated approach combining CT-derived airway biomarkers and clinical characteristics enables more efficient and targeted COPD detection within lung cancer screening programs.

Keywords: COPD detection; CT-biomarker; Lung cancer screening; Pi10; emphysema; low-dose CT.

2

Respir Investig

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. 2026 Aug 14;64(5):101500.

doi: 10.1016/j.resinv.2026.101500. Online ahead of print.

From guideline to practice: Toward person-centered care for multimorbid patients with chronic obstructive pulmonary disease

Seiichi Kobayashi [1], Manabu Ono [2], Masatsugu Ishida [2], Hikari Satoh [2], Koji Okutomo [2], Masaru Yanai [2]

Affiliations Expand

- **PMID: 42600392**

- DOI: 10.1016/j.resinv.2026.101500

No abstract available

Conflict of interest statement

Declaration of competing interest The authors have no conflict of interest.

Supplementary info

Publication typesExpand

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Cite

3

Expert Rev Vaccines

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. 2026 Dec;25(1):2715855.

doi: 10.1080/14760584.2026.2715855. Epub 2026 Aug 14.

Consensus based expert recommendations for management and prevention of RSV infections in older adults in emerging market countries: results from an expert panel structured survey

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Affiliations Expand

- PMID: 42596759

- DOI: 10.1080/14760584.2026.2715855

Abstract

Background: Respiratory syncytial virus (RSV) can cause serious disease in older adults (OAs), particularly those with comorbidities. It is a leading cause of acute respiratory illness and lower respiratory tract infections in adults ≥60 years. Its impact on morbidity, mortality, and healthcare systems is becoming evident. Questions about the burden of disease (BoD) are raised due to underdiagnosis and the similarity with other respiratory illnesses. First opportunities for prevention came in 2023 and 2024, with vaccines approved for ≥60 years, expanding eligibility to additional age groups.

Research design and methods: A modified Delphi approach through a questionnaire survey and virtual consensus workshop with 27 experts in respiratory and infectious diseases from 12

emerging market countries was done to reach consensus on diagnosis, prevention, and treatment of RSV in OAs.

Results: The panel recommends the introduction of a universal vaccination program for all adults aged ≥70 years, and vaccination for all adults aged ≥60 years with comorbidities. The need for increased awareness, better testing, and national and international guidelines was also agreed.

Conclusion: The agreements highlight that RSV vaccination for OAs should be prioritized. Educating clinicians and patients, improving surveillance, and integrating RSV vaccination into health policies are key to reducing BoD in OAs.

Keywords: Burden of disease; consensus survey; older adults; public health policy; respiratory disease; respiratory syncytial virus; vaccines.

Plain language summary

Respiratory syncytial virus (RSV) can cause serious disease in older adults, especially those with chronic health problems such as asthma, chronic obstructive pulmonary disease or heart failure. Each year, RSV leads to thousands of hospitalizations and deaths, yet it is often underdiagnosed because testing is limited and symptoms overlap with flu or COVID-19. This study brought together 27 doctors and researchers from 12 countries to look at how RSV affects older adults and how it is currently diagnosed, prevented, and treated. Using a questionnaire-based survey and a group discussion, the experts agreed that vaccination is the best way to protect older adults from RSV. They also agreed that there is a need for greater awareness of RSV, better testing, and clearer national and international guidelines.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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4

J Appl Physiol (1985)

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. 2026 Aug 12.

doi: 10.1152/japplphysiol.00541.2026. Online ahead of print.

Reliability and validity of surface electromyography for identifying contractile muscle fatigue during cycling in people with COPD

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Affiliations Expand

- **PMID: 42586168**

- **DOI: 10.1152/japplphysiol.00541.2026**

Abstract

Surface electromyography (sEMG) may provide reliable biomarkers of contractile muscle fatigue (CMF) during exercise in COPD. This study aimed to: (1) determine the test-retest reliability of amplitude- and frequency-based sEMG metrics recorded from the quadriceps muscle during a constant-work-rate cycling test (CWRT); (2) assess their criterion validity for detecting CMF against potentiated twitch force (TWp); and (3) explore associations between sEMG metrics and physiological outcomes. Adults with COPD referred for pulmonary rehabilitation performed two CWRTs to the limit of tolerance (T_{lim}) at 75-80% of the individual peak workload, with physiological responses recorded. CMF was assessed by: (1) amplitude- (root mean square, RMS) and frequency-based sEMG metrics recorded from the right quadriceps, analyzed per pedal-stroke and expressed as Z-score changes at T_{lim} relative to a fatigue-free baseline; and (2) the post-exercise change in TWp of the right quadriceps. Relative and absolute test-retest reliability, and criterion validity of sEMG against TWp were assessed. Twenty-five participants completed the assessments. Among the sEMG metrics, only vastus lateralis RMS showed adequate relative reliability [intraclass correlation coefficient (95% CI) = 0.79 (0.74-0.85)] but a non-negligible standard error of measurement of 0.58. Moreover, vastus lateralis RMS showed 86% sensitivity and specificity versus TWp in identifying CMF. An increase of ≥0.65 Z-scores identified the threshold for sEMG-based CMF. Changes in vastus lateralis RMS were moderately correlated with physiological responses at T_{lim} ($p < 0.05$). In conclusion, vastus lateralis RMS derived from sEMG can be used as a biomarker of CMF during cycling in individuals with COPD.

Keywords: COPD; exercise tolerance; fatigue; muscle function; surface electromyography.

Supplementary info

Grants and fundingExpand

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Cite

5

JACC Adv

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. 2026 Aug 12;5(9):103118.

doi: 10.1016/j.jacadv.2026.103118. Online ahead of print.

National Trends in Atrial Fibrillation Hospitalizations, Readmissions, and Mortality, 2010 to 2022

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Affiliations Expand

- PMID: 42585856

- DOI: 10.1016/j.jacadv.2026.103118

Free article

Abstract

Background: Atrial fibrillation (AF) is a leading cause for acute cardiovascular hospitalizations. There is limited contemporary data about national trends and risk factors that predict readmission and mortality.

Objectives: The objective of the study was to identify national trends in hospitalizations, readmissions, and inpatient mortality during index admission for AF.

Methods: Using nationally representative, survey-weighted hospitalization data, we assessed AF hospitalization trends and calculated risk factors for 30-day readmission and in-hospital mortality using cluster-adjusted multivariable logistic regression.

Results: Between 2010 and 2022, there were 6,141,046 primary AF hospitalizations among 5,528,397 unique patients, of which 892,254 (16.1%) experienced 30-day readmission and 53,084 (0.96%) deaths during index admission. Renal disease was the strongest predictor of both 30-day readmission (adjusted OR: 1.39; 95% CI: 1.37-1.40) and in-hospital mortality (adjusted OR: 3.98; 95% CI: 3.85-4.11); public insurance was also strongly associated with adverse outcomes, including Medicare (readmission OR: 1.46; mortality OR: 1.17) and Medicaid coverage (readmission OR: 1.62; mortality OR: 1.43), along with lower income quartile, chronic obstructive pulmonary disease (readmission OR: 1.48; mortality OR: 1.66), heart failure (readmission OR: 1.38; mortality OR: 1.83), prior myocardial infarction (readmission OR: 1.26; mortality OR: 3.34), and female sex (readmission OR: 1.12; mortality OR: 1.07). Total cost of AF hospitalizations in 2022 was $7.2 billion.

Conclusions: In the United States, AF hospitalizations and readmissions experienced a modest overall net increase from 2010 to 2022, with a notable decline from 2014 to 2020 before rebounding following the COVID-19 pandemic, and 30-day readmissions and in-hospital mortality were associated with age, comorbidities, and socioeconomic factors.

Keywords: National Readmission Database; atrial fibrillation; in-hospital mortality; readmissions; rhythm management.

Conflict of interest statement

Funding support and author disclosures The authors have reported that they have no relationships relevant to the contents of this paper to disclose.

J Cardiopulm Rehabil Prev

. 2026 Aug 11.

doi: 10.1097/HCR.0000000000001062. Online ahead of print.

Barriers and Facilitators of Depression Treatment in Patients With Chronic Obstructive Pulmonary Disease

Abebaw M Yohannes[1], Anand S Iyer, Richard C Shelton, J Michael Wells, R Chad Wade, Mark T Dransfield

Affiliations Expand

- PMID: 42583911

- DOI: 10.1097/HCR.0000000000001062

No abstract available

Conflict of interest statement

Conflict of interest: Prof Yohannes: received consulting fees from Chiesi and support for attending a meeting with Theravance Biopharma Limited, outside the scope of this manuscript; grants: American Lung Association. Dr Iyer: reports grant funding from the NIH/NIA (K76 AG064327) and the Department of Veterans Affairs (1I01HX003939-01). The views of this publication do not necessarily reflect those of the federal government. He also reports an honorarium from the COPD Foundation and serves without financial support on the boards of the UAB National Alumni Society and the nonprofit, Health Rounds. Prof Shelton: grant/research support: Abbvie, Inc., Acadia Pharmaceuticals, Alto Pharmaceuticals, Boehringer Ingelheim, Bristol Myers Squibb, Denovo Biopharma, Intra-cellular Therapies, Johnson & Johnson, LivaNova PLC, Navitor Pharmaceuticals, Neumora, Neurocrine Biosciences, Neurorx, Novartis AG, Otsuka Pharmaceuticals, Sumitomo Group, Supernus Pharmaceuticals, Syndeio Biosciences, Xenon Pharmaceuticals Inc; consulting: Boehringer Ingelheim, Denovo Biopharma, Equulus Therapeutics, Evecxia Therapeutics, Johnson & Johnson, Neurocrine Biosciences, Novartis AG, Otsuka Pharmaceuticals; royalties: Springer-Nature Group, Wolters-Kluwer NV. Dr Wells: reports support for from NIH/NCATS and Mereo BioPharma plc, grants from NIH/NHLBI, Department of Veteran Affairs, ARCUS-Med, Medscape, Verona Pharma, Grifols, Alpha-1 Foundation, Inhibrx and American Lung Association, patents planned, issued or pending with Mereo BioPharma (PCT/GB2021/050658), participation on a data safety monitoring board or advisory board with AstraZeneca, Takeda, GSK, Bavarian Nordic, Krystal Biotech, Sanofi and Verona Pharma, stock or stock options with Alveolus Bio, and support for medical writing from Takeda, GSK and Verona Pharma. Dr Wade: received fees from AstraZeneca and Sanofi for advisory board participation and educational lecture fees from Verona and Berlin-Chemie. Prof Dransfield: grants: reports support from National Institute of Health, American Lung Association; consulting fees: GlaxoSmithKline plc, Aer Therapeutics and Apreo; royalties: UpToDate.

- 10 references

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Cite

7

Multicenter Study

BMJ Open Respir Res

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. 2026 Aug 11;13(1):e004358.

doi: 10.1136/bmjresp-2026-004358.

Association of body mass index with mortality in COPD through exacerbations and cardiovascular events

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Affiliations Expand

- PMID: 42580774

- PMCID: PMC13475264

- DOI: 10.1136/bmjresp-2026-004358

Abstract

Introduction: The mechanisms through which body mass index (BMI) influences the prognosis of chronic obstructive pulmonary disease (COPD) remain poorly understood. This study investigates whether BMI influences all-cause mortality in patients with COPD through mediating effects of exacerbations and cardiovascular events.

Methods: Data were obtained from a multicentre prospective COPD cohort (NCT02800499). BMI was assessed both continuously and categorically as <23 (low), 23-27 (normal) and >27 kg/m^2 (high). The primary outcome was all-cause mortality and secondary outcomes were moderate-to-severe exacerbations and cardiovascular events. Mediation analyses were applied to quantify the contribution of these events to the association between BMI and all-cause mortality.

Results: Among 3314 patients with COPD, those with low BMI had a higher risk of mortality (adjusted OR, 1.46; 95% CI 1.04 to 2.07), whereas no significant difference was observed among those with high BMI. Mediation analyses indicated that exacerbations partially mediated the relationship between BMI and all-cause mortality, explaining 11.9% of the increased mortality

among patients with low BMI and 21.9% of the reduced mortality among those with high BMI. Meanwhile, cardiovascular events showed mediating effects in the opposite direction, contributing to 5.2% lower mortality among patients with low BMI and 11.5% higher mortality among those with high BMI.

Conclusions: BMI was non-linearly associated with all-cause mortality in COPD. Exacerbations mediated the excess mortality risk among patients with low BMI, whereas the decreasing risk of cardiovascular events in this group contributed to a countervailing effect that tempered the overall association between low BMI and mortality.

Keywords: COPD; COPD Exacerbations.

Conflict of interest statement

Competing interests: None declared.

- 33 references
- 2 figures

Supplementary info

Publication types, MeSH termsExpand

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Cite

8

Chest

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. 2026 Aug 11:S0012-3692(26)06342-7.

doi: 10.1016/j.chest.2026.06.074. Online ahead of print.

Effectiveness of beta-blockers in COPD and CVD: Real-world effects on mortality

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Affiliations Expand

- PMID: 42580516

- DOI: 10.1016/j.chest.2026.06.074

Abstract

Background: While beta-blockers are effective at reducing mortality in certain cardiovascular diseases (CVD), their effectiveness in patients with chronic obstructive pulmonary disease (COPD) and CVD is uncertain, particularly with the concurrent use of long-acting β_2-agonist bronchodilators (LABA).

Research question: Is the initiation of beta-blockers in patients with COPD and CVD associated with reduced mortality, and is this effect influenced by concurrent use of LABAs?

Study design and methods: We used the United Kingdom's Clinical Practice Research Datalink (CPRD) to form a cohort of patients with COPD and CVD from January 2002 to March 2021, 40 years of age or older. We employed a prevalent new-user design, conceived to emulate a trial, matching initiators of beta-blockers with non-users on time and propensity score, as well as CVD indication, namely heart failure (HF), ischemic heart disease (IHD), atrial fibrillation (AF), and hypertension. Hazard ratios (HR) and 95% confidence intervals (CI) of all-cause mortality were estimated using an as-treated approach.

Results: The study cohort included 11, 594 beta-blocker initiators and 11, 594 matched non-users. The HR of death with beta-blocker use relative to non-use was 0.88 (95% CI: 0.81-0.95). This HR was 0.95 (95% CI: 0.85-1.05) among concurrent LABA users and 0.80 (95% CI: 0.71-0.91) among LABA non-users (P-value for interaction 0.04), an effect driven by IHD patients (P-value for interaction 0.01). The HR was 0.77 (95% CI: 0.66-0.89) among patients with HF, 0.84 (95% CI: 0.73-0.98) for IHD, 0.96 (95% CI: 0.83-1.11) for AF and 1.10 (95% CI: 0.87-1.38) for hypertension.

Interpretation: This large population-based study, designed to emulate a trial, suggests that beta-blocker use is effective at reducing all-cause mortality in patients with COPD and CVD, but only those with heart failure or ischemic heart disease, not those with atrial fibrillation or hypertension. The concurrent use of long-acting beta-agonists could mitigate the effectiveness of beta-blockers at reducing mortality.

Clinical trial registration: Not applicable.

Keywords: Clinical Practice Research Datalink; Cohort study; Drug-drug interaction; Mortality; Pharmacoepidemiology; Prevalent new-user design; Propensity score.

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Case Reports

Cureus

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. 2026 Aug 10;18(8):e114283.

doi: 10.7759/cureus.114283. eCollection 2026 Aug.

Chronic Cough With Reduced Diffusing Capacity and Preserved-Ratio Impaired Spirometry in a Young Never-Smoker With Systemic Lupus Erythematosus: A Diagnostic Pitfall

Nivedita Singh[1,2], Divya Makkar[3], Govind Kumar[4], Vachan K Vanjarapu[5], Soujanya Sodavarapu[2]

Affiliations Expand

- PMID: 42578089
- PMCID: PMC13456693
- DOI: 10.7759/cureus.114283

Abstract

Chronic cough in patients with systemic lupus erythematosus can be difficult to evaluate, especially when initial testing is unrevealing. We report the case of a 33-year-old woman with long-standing systemic lupus erythematosus, biopsy-proven lupus nephritis, prior extrapulmonary pericardial tuberculosis, and no active or passive smoking exposure who developed a persistent dry cough for six months. She was initially treated for gastroesophageal reflux disease with pantoprazole, without meaningful relief. Chest radiography and swallowing assessment were normal. Initial pulmonary function testing in July 2023 was formally interpreted as moderate obstructive airways disease, mild parenchymal restriction, and a moderately severe diffusion defect, without a significant bronchodilator response. High-resolution volumetric computed tomography of the chest with dynamic airway assessment showed no emphysema, bronchiectasis, interstitial lung disease, tracheomalacia, or acute cardiopulmonary process. Her cough improved substantially after inhaled therapy with albuterol and budesonide/glycopyrrolate/formoterol fumarate. Repeat pulmonary function testing in October 2023 showed improved spirometric values, but the forced expiratory volume in one second/forced vital capacity ratio remained preserved, and hemoglobin-adjusted diffusing capacity remained reduced at 64% predicted. This case highlights a diagnostic pitfall: inhaler-responsive chronic cough and a pulmonary function report suggesting obstruction should be evaluated together with post-bronchodilator spirometry, diffusing capacity, imaging, and exposure history. In systemic lupus erythematosus, a persistent cough may be associated with clinically relevant pulmonary function abnormalities even when chest imaging is unrevealing.

Keywords: chronic cough; diagnostic pitfall; lupus nephritis; never-smoker; preserved-ratio impaired spirometry; reduced diffusing capacity; small airway disease; systemic lupus erythematosus.

Conflict of interest statement

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. 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.

- 15 references
- 1 figure

Supplementary info

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10

ERJ Open Res

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. 2026 Aug 10;12(4):01784-2025.

doi: 10.1183/23120541.01784-2025. eCollection 2026 Jul.

Inhaler mastery and retention after stepwise training in cognitively impaired older COPD

Federico Lavorini [1], Alessandra Sorano [1], Carlo Fumagalli [2], Claudia Mannini [1], Giulia Fabietti [1], Giorgio Vitale [1], Ludovica Benuzzi [1], Raffaele Marfella [2], Niccolò Marchionni [1], Omar S Usmani [3]

Affiliations Expand

- PMID: 42577658
- PMCID: PMC13454861
- DOI: 10.1183/23120541.01784-2025

Abstract

Background: In older COPD patients with cognitive impairment, inhaler technique errors are common, but may be reduced by simplified designs and structured training.

Methods: We conducted a prospective, crossover study with follow-up at 5±1 weeks in device-naïve COPD patients aged ≥70 years with moderate cognitive impairment (Mini Mental State Examination score 10-24). Physical function was assessed (Fried's Frailty Phenotype and Barthel Index). Participants demonstrated technique with a multidose dry powder inhaler (mDPI), a capsule-based DPI (cDPI), and a pressurised metered-dose inhaler (pMDI) after reading the

patient information leaflet, then received a standardised stepwise training programme. Co-primary end-points were mastery after reading the patient information leaflet and after expert tuition. Secondary end-points included time to mastery, 1-month technique retention, and satisfaction (10-item Feeling of Satisfaction with Inhaler questionnaire).

Results: 96 patients completed the study (mean age 79 years; 42% women; 66% pre-frail, 14% frail). After reading the patient information leaflet, correct technique was achieved by 29% with mDPI, 13% with cDPI, and 7% with pMDI. Errors were more frequent ($p<0.001$) with the pMDI (n=137) and cDPI (n=98) than with the mDPI (n=65). Training enabled all patients to achieve mastery, with shorter ($p<0.001$) times for the mDPI (3.1±1.1 min) than the cDPI (8.5±2.1 min) or pMDI (9.1±3.3 min). After 1 month, 85% maintained correct technique, higher ($p<0.05$) for the mDPI (97%) than pMDI (77%). Satisfaction scores favoured ($p<0.01$) the mDPI.

Conclusions: Structured training allows older cognitively impaired COPD patients to master and retain inhaler technique. The mDPI was simpler, faster to learn, and better retained, supporting its use in geriatric COPD care.

Conflict of interest statement

Conflict of interest: F. Lavorini received grants for research from GSK Italy; and fees for speaking from AstraZeneca, Chiesi Farmaceutici, GlaxoSmithKline, MSD International and Orion Pharma. A. Sorano, C. Fumagalli, C. Mannini, G. Fabietti, G. Vitale, L. Benuzzi, R. Marfella and N. Marchionni declare no conflicts of interest. O.S. Usmani received research support from GlaxoSmithKline, Chiesi, Boehringer Ingelheim and AstraZeneca.

- 41 references
- 3 figures

Full text links

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Review

ERJ Open Res

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. 2026 Aug 10;12(4):01481-2025.

doi: 10.1183/23120541.01481-2025. eCollection 2026 Jul.

Physical activity in COPD: a scoping review of methods and behaviour change techniques

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Affiliations Expand

- PMID: 42577517

- PMCID: PMC13454879

- DOI: 10.1183/23120541.01481-2025

Abstract

Long-term maintenance of active lifestyles is a key goal in COPD management, but it remains challenging. Implementation best practices are still under investigation. This scoping review of the literature aimed to characterise intervention methodologies to promote physical activity (PA)/reduce sedentary behaviour (SB) in people with COPD and identify the behaviour change techniques (BCTs) used. Studies describing these interventions were searched on PubMed, Scopus, Web of Science and PsycNET until May 2025. Two reviewers independently screened and reviewed articles. The 112 studies included comprised 73 interventions (68 on PA promotion, 3 on SB reduction and 2 on both). Mean intervention duration was 21±19 weeks, 56 included a telemedicine approach, with 15 implemented peri-pulmonary rehabilitation. Regarding activity promotion, 32 mentioned education, 18 motivational interviewing and 19 counselling/coaching. Total daily PA was promoted in 52% of interventions, with personalised initial prescription (45%) and progression (25%), frequently using step count as baseline measure (33%). The most frequent BCTs were related to self-monitoring and goal setting both (73%), with a mean of 8±3 BCTs per intervention. This scoping review highlights heterogeneity in unsupervised PA and SB interventions in COPD. Future research should identify the optimal approach, behaviour change strategies and timing.

Conflict of interest statement

Conflict of interest: J. Cruz is a member of the ERJ Open Research editorial board. The other authors declare no conflicts of interest.

- 156 references
- 5 figures

Supplementary info

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Cite

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Meta-Analysis

Crit Care

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. 2026 Aug 8;30(1):407.

doi: 10.1186/s13054-026-06240-1.

Predictive value of diaphragmatic ultrasound for weaning outcomes in mechanically ventilated patients with acute exacerbation of chronic obstructive pulmonary disease: a systematic review and meta-analysis

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Affiliations Expand

- PMID: 42576250

- PMCID: PMC13459330

- DOI: 10.1186/s13054-026-06240-1

Abstract

Background: Weaning failure in mechanically ventilated patients with acute exacerbation of chronic obstructive pulmonary disease (AECOPD) remains a critical ICU challenge that substantially increases mortality. Although point-of-care diaphragmatic ultrasound is widely proposed to guide weaning decisions, its diagnostic accuracy remains uncertain, and the optimal parameter for this high-risk population has yet to be established.

Methods: We systematically searched eight databases through April 5, 2026, for studies evaluating diaphragmatic ultrasound for predicting weaning outcomes in AECOPD. After methodological quality was appraised with the QUADAS-2 tool. Pooled sensitivity, specificity, positive and negative likelihood ratios (LR + and LR-), and diagnostic odds ratios were estimated using bivariate random-effects models, and overall diagnostic performance was summarized by the area under the summary receiver operating characteristic curve. Fagan nomograms were constructed to illustrate changes from pre-test to post-test probability. Threshold effects and heterogeneity were assessed using Spearman correlation and the Q test with the I^2 statistic, respectively. Exploratory meta-regression, leave-one-out sensitivity analyses, and Deeks' test were used to investigate sources of heterogeneity, assess result stability, and evaluate funnel-plot asymmetry.

Results: Twenty-three studies comprising 2,000 patients (1,310 successes, 690 failures) were included. Of 14 distinct ultrasound parameters identified, four provided sufficient data for quantitative synthesis. Diaphragmatic excursion (DE, n = 16) showed the most robust and balanced performance, with a pooled sensitivity of 0.85, specificity of 0.85, and an AUC of 0.92. Diaphragm thickening fraction (DTF, n = 13) also showed good accuracy (sensitivity 0.84, specificity 0.77, AUC 0.88). The diaphragmatic rapid shallow breathing index (D-RSBI, n = 8)

showed high specificity (0.88) but moderate sensitivity (0.74; AUC 0.85), whereas diaphragmatic contraction velocity (DCV, n = 4) showed only moderate accuracy (AUC 0.70). Substantial heterogeneity was observed for DE, DTF, and D-RSBI.

Conclusions: Diaphragm ultrasound, particularly DE, may provide useful prognostic information for weaning outcomes in mechanically ventilated patients with AECOPD, while D-RSBI may help identify patients at high risk of weaning failure. However, given the small, predominantly single-centre studies, post hoc study-specific thresholds, substantial heterogeneity, and geographical concentration of the evidence, these findings represent apparent prognostic performance rather than externally validated diagnostic accuracy. Diaphragm ultrasound should therefore be used as an adjunct rather than the sole basis for weaning decisions, pending multicentre external validation and interventional trials demonstrating improved patient-important outcomes.

Keywords: Acute exacerbation of chronic obstructive pulmonary disease; Diaphragmatic excursion; Diaphragmatic ultrasound; Intensive care units; Meta-analysis; Ventilator weaning; Weaning failure.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: Not applicable. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 68 references
- 10 figures

Supplementary info

Publication types, MeSH terms, Grants and fundingExpand

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Respir Med

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. 2026 Aug 8:109098.

doi: 10.1016/j.rmed.2026.109098. Online ahead of print.

Added Value of Expiratory CT in Chronic Airflow Limitation

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Affiliations Expand

- PMID: 42570787

- DOI: 10.1016/j.rmed.2026.109098

Abstract

Background: Expiratory CT and lobar analysis may provide complementary information to inspiratory CT and spirometry for identifying chronic airflow limitation (CAL), but their value in population-based cohorts remains insufficiently characterised.

Methods: We analysed 2,579 participants from the Stockholm cohort of the Swedish CArdioPulmonary bioImage Study, including 430 with CAL, defined as post-bronchodilator $FEV_1/FVC < 0.7$. Inspiratory and expiratory chest CT scans were segmented into lung lobes using a deep-learning model. Total and lobar lung volumes, low-attenuation volume below -950 HU and below -856 HU, inspiratory - expiratory volume difference, and inspiratory fraction were calculated (inspiratory-expiratory volume/inspiratory volume). Discrimination of CAL was assessed using receiver operating characteristic analysis and regularised logistic regression.

Results: Participants with CAL had higher inspiratory and expiratory lung volumes and higher low-attenuation volumes than those without CAL, while inspiratory fraction was lower. Expiratory CT measures showed stronger discrimination for CAL than inspiratory measures. A model using inspiratory CT measures alone achieved an AUC of 0.66, compared with 0.77 when inspiratory and expiratory total lung measures were combined. Adding lobar measures further improved performance to an AUC of 0.81, with 79% sensitivity, 69% specificity, 34% positive predictive value and 94% negative predictive value.

Conclusions: Quantitative expiratory CT measures showed stronger discriminatory ability for CAL than inspiratory measures in this population-based cohort. Lobar analysis provided additional regional information and modestly improved classification performance, supporting integrated inspiratory-expiratory CT assessment for identifying CAL.

Keywords: COPD; Chest CT; chronic airflow limitation; expiratory CT; lung lobe segmentation; quantitative computed tomography.

Conflict of interest statement

Declaration of Competing Interest ☒ The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:Eva Breznik reports financial support was provided by The Swedish Heart Lung Foundation. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

14

Am J Respir Crit Care Med

. 2026 Aug 8:aamag413.

doi: 10.1093/ajrccm/aamag413. Online ahead of print.

The Renaissance of Bronchiectasis

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- PMID: 42569927

- DOI: 10.1093/ajrccm/aamag413

Free article

Abstract

Bronchiectasis now has an expanding landscape with a research growth rate exceeding that of asthma and COPD (9). We have summarized the top ten major shifts in domains of this landscape. In addition to the gaps mentioned above, further growth also needs to focus on prevention and ensure that consumers and underserved populations are included to strengthen equity (including in medication and RCT access), enhance relevance, and translate advances into meaningful improvements in care and outcomes for both children and adults with bronchiectasis.

Keywords: Bronchiectasis; adults; children; history.

. 2026 Aug 14;81(9):838-844.

doi: 10.1136/thorax-2025-224094.

Assessment of macrolide resistance in the respiratory tract of preterm-born infants during treatment with azithromycin in the AZTEC clinical trial

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- PMID: 41644136

- DOI: 10.1136/thorax-2025-224094

Free article

Abstract

Background: Our multicentre, double-blind, randomised, placebo-controlled Azithromycin therapy for prevention of chronic lung disease of prematurity trial assessed if early 10-day azithromycin treatment improved survival without development of chronic lung disease of prematurity when compared with placebo in 796 preterm-born infants. Since antibiotic resistance remains a significant global health priority, we had preplanned macrolide-resistance assessment in recruited infants. We, therefore, identified baseline macrolide-resistant genes in respiratory samples and determined if this was altered by azithromycin treatment. Furthermore, we assessed if macrolide-resistant bacteria isolated from respiratory samples were also resistant to other common antibiotic classes.

Methods: Six common macrolide-resistant genes: *erm*(A), *erm*(B), *erm*(C), *erm*(F), *mef*(A/E) and *msr*(A) were identified by quantitative PCR (qPCR) from serial nasopharyngeal and endotracheal aspirates from recruited infants at baseline (pretreatment), day-5, day-10 and day-14 (post treatment). Azithromycin-resistant bacteria were assessed by culture in presence/absence of azithromycin and underlying resistance mechanisms were confirmed by qPCR. Resistance to other common antibiotics was also evaluated and molecular determinants were identified by whole genome sequencing.

Results: From 1108 (n=541 azithromycin, n=567 placebo) respiratory aspirates from 348 preterm infants, the overall prevalence of macrolide-resistant genes was similar in the placebo (63.7%) and azithromycin (63.9%) groups, with only *erm*(C) gene increased by azithromycin. Azithromycin-resistant bacteria were resistant to multiple clinically used antibiotics, being associated with several different underlying resistance mechanisms. Coagulase-negative staphylococci (CoNS) were the most recovered macrolide-resistant bacteria.

Conclusions: Macrolide-resistant genes were noticeably prevalent in the placebo group, with minimal increase with azithromycin treatment, suggesting that, regardless of the additional use of azithromycin, judicious use of antibiotics is required in preterm-born infants.

Keywords: Infant, Newborn; Pulmonary Disease, Chronic Obstructive; Respiratory Infection.

Conflict of interest statement

Competing interests: SK, JL and JM received funding from NIHR HTA as co-applicants for this project. JM reports payments/honoraria for lectures from IBSA Institut Biochimique SA, support for attending meetings from Fred Hutchinson Cancer Centre, and also patents issued and pending. SK reports receiving grant funding outside this work from MRC, EME NIHR, Aspire Pharma and Moulton Foundation, and consultancy fees from Aspire Pharma during the past 36 months. The other authors have nothing to declare.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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

1

BMJ Open

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. 2026 Aug 14;16(8):e106179.

doi: 10.1136/bmjopen-2025-106179.

Socioeconomic differentials in multimorbidity prevalence, health and social care expenditure among persons 65 years and older in region Stockholm, Sweden: a population-based study

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Affiliations Expand

- **PMID: 42601104**

- **DOI: 10.1136/bmjopen-2025-106179**

Abstract

Objectives: This study aims to assess socioeconomic differentials in the prevalence of multimorbidity among adults ≥65 years, health and social care expenditure and its effect on total care expenditure.

Design: Population-based cross-sectional register study.

Setting: Region Stockholm, Sweden.

Participants: Persons ≥65 years (N=371 583), in Region Stockholm in 2019.

Primary outcome: Total health and social care expenditure per individual in 2019.

Secondary outcome: Prevalence and sociodemographic patterns of multimorbidity, differences in care expenditure across socioeconomic groups and the composition of services used.

Results: Multimorbidity prevalence was 62.6% among adults aged ≥65 years (N=371 583), increasing with age and occurring earlier in lower income groups. Average total care expenditure increased from 34 346 Swedish Kronor (SEK) among individuals with no chronic conditions and 55 606 SEK among those with one condition to 143 063 SEK among those with ≥4 chronic conditions. Social care expenditure exceeded healthcare expenditure from age 80 years onwards. In adjusted gamma regression models, multimorbidity was associated with 11.6% higher total care expenditure (cost ratio (CR) 1.116, CI 1.114 to 1.118). Compared with the highest income group, expenditure was also higher among those in the lowest (CR: 1.038, CI 1.036 to 1.040) and second-lowest income groups (CR: 1.011, CI 1.009 to 1.013).

Conclusions: Multimorbidity is increasingly prevalent in older ages and is associated with higher health and social care expenditure. This poses a challenge to organising and financing healthcare, and critically, social care services, in the future. More resources should be allocated to health promotion and prevention to delay onset, targeting lower socioeconomic groups. Alternative approaches to organising care that balance quality, equity and cost-effectiveness should be explored.

Keywords: Health Services; Health Services for the Aged; Health economics; Multimorbidity; SOCIAL MEDICINE.

Conflict of interest statement

Competing interests: None declared.

Supplementary info

MeSH termsExpand

Full text links

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Cite

2

Practice Guideline

Eur J Intern Med

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. 2026 Aug 13:107121.

doi: 10.1016/j.ejim.2026.107121. Online ahead of print.

Identification and management of sarcopenia in patients with multimorbidity: An EFIM critically appraised and adapted guideline

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Affiliations Expand

- PMID: 42595648

- DOI: 10.1016/j.ejim.2026.107121

Abstract

Background: Sarcopenia is highly prevalent among adults with multimorbidity and contributes substantially to frailty, disability, prolonged hospitalization, and mortality. International guidelines offer robust diagnostic and therapeutic frameworks for sarcopenia, but rarely incorporate the clinical complexity of patients with multimorbidity (MM). The European Federation of Internal Medicine (EFIM) undertook a guideline adaptation process to produce practical, evidence-based recommendations specifically tailored for internal medicine practice.

Methods: A multinational survey of European internists identified priorities and practice unsolved clinical questions (PICOs) in older people with MM. This was followed by a critical appraisal of updated existing clinical practice guidelines (CPGs) and the selection of recommendations that were most applicable to specific clinical situations. Where direct evidence in multimorbid populations was limited, Good Practice Points were formulated considering pathophysiology, feasibility, and frailty safety concerns.

Results: A total of eight PICO questions were prioritized, covering case-finding, screening, diagnosis, prevention, iatrogenic complications, nutritional or exercise interventions, and pharmacotherapy. The 37 adapted recommendations from 4 high quality CPG emphasize: proactive case-finding in adults ≥65 years and multimorbid adults <65 years with specific risk factors; prioritization of muscle strength (handgrip or chair-stand) as the entry point to assessment; flexible diagnostic pathways, individualized multimodal physical activity, and nutritional interventions. The guideline also addresses treatment-induced risks (e.g., corticosteroids, Glucagon-Like Peptide-1 /Gastric Inhibitory Peptide agonists) in MM contexts. Of the 37 selected recommendations (30 strong and 7 weak), 8 were based on high, 12 on moderate, and 17 on low-quality evidence, built on consensus (best practice statements).

Conclusions: This EFIM-adapted clinical practice guideline provides a practical framework for the identification and management of sarcopenia in patients with MM. By integrating feasibility considerations, multimorbidity science, and functional assessment strategies, it offers a clinically relevant tool for improving outcomes in a population at high risk of frailty, disability, and mortality. Future research should prioritize MM populations to strengthen the evidence for integrated, patient-centered sarcopenia care.

Keywords: Clinical practice guidelines; Critical appraisal; Multimorbidity; Sarcopenia.

Conflict of interest statement

Declaration of competing interest All authors declare that they have no financial relationships with any organizations that might have an interest in the submitted work in the previous three

years, and they declare no other relationships or activities that could appear to have influenced the submitted work.

Supplementary info

Publication typesExpand

Full text links

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Cite

3

Acad Med

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. 2026 Aug 12:wvag253.

doi: 10.1093/acamed/wvag253. Online ahead of print.

Mapping multimorbidity in undergraduate medical education: a scoping review

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Affiliations Expand

- **PMID: 42587420**

- **DOI: 10.1093/acamed/wvag253**

Abstract

Purpose: Multimorbidity is an increasingly common clinical and public health challenge, yet undergraduate medical education (UME) frequently emphasizes single-disease models. Using Cultural Historical Activity Theory (CHAT), this review maps how multimorbidity is conceptualized within UME to inform more deliberate teaching and curriculum design.

Method: The authors conducted a scoping review to map the existing medical education literature on multimorbidity in the undergraduate setting. Search terms were developed using a Cochrane Multimorbidity Review as a foundation. Five databases were searched from inception to March 31, 2026: EMBASE, MEDLINE, CINAHL, ERIC and Web of Science. Data extraction was informed by CHAT, and findings were organized on whether articles positioned multimorbidity as a central or peripheral phenomenon of interest.

Results: A total of 3636 articles were identified; 348 underwent full-text review, and 30 met inclusion criteria. Included publications comprised original research (17 [56.7%]), conference abstracts (5 [16.7%]), innovation reports (3 [10%]), opinion pieces (3 [10%]), one short communication, and one letter. Sixteen articles (53.3%) discussed multimorbidity as a central phenomenon of interest, while 14 (46.7%) addressed it as a peripheral phenomenon. When

discussed as a central phenomenon, multimorbidity was consistently conceptualized, primarily addressed in formal classroom settings, frequently linked to clinical reasoning, and described as a curricular challenge. When addressed as a peripheral phenomenon of interest, conceptualizations were variable. Multimorbidity appeared within clinical teaching environments, was connected to diverse skills and topics, but educational initiatives were developed with minimal patient involvement.

Conclusions: This review reveals a core tension: although multimorbidity is common in clinical practice, its presence in UME remains limited and fragmented. It is inconsistently conceptualized and often disconnected from clinical contexts. Strengthening multimorbidity education through stronger conceptual foundations and better integration across curricula and authentic clinical environments is essential to preparing learners to deliver effective care to people living with multimorbidity.

Keywords: medical education; multimorbidity; scoping review; teaching; undergraduate medical education.

. 2026 Aug 14;49(8):zsag135.

doi: 10.1093/sleep/zsag135.

Treatment of chronic insomnia in elderly adults with dual orexin receptor antagonists: a systematic review and meta-analysis

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- PMID: 42143581

- PMCID: PMC13472891

- DOI: 10.1093/sleep/zsag135

Abstract

Study objectives: Chronic insomnia is common among older adults, and its management is particularly challenging due to changes in sleep architecture, multimorbidity, and increased vulnerability to adverse drug effects. Dual orexin receptor antagonists have emerged as a novel therapeutic class with promising efficacy and tolerability profiles. However, evidence specific to older adults remains limited. Here, we performed the first systematic review and meta-analysis specifically evaluating the efficacy and safety of dual orexin receptor antagonists in elderly patients with chronic insomnia (PROSPERO CRD42024565687).

Methods: Randomized controlled trials were identified from MEDLINE, Scopus, and ClinicalTrials.gov. Objective polysomnographic outcomes, including latency to persistent sleep, total sleep time, and wake after sleep onset, as well as subjective sleep measures, were analyzed, along with safety outcomes.

Results: Ten studies met the inclusion criteria for the systematic review, with five studies contributing to the meta-analysis. The quantitative synthesis comprised 2235 patients in the experimental group and 1409 patients in the control group. Overall, compared with placebo dual orexin receptor antagonists reduced wake after sleep onset and latency to persistent sleep while increasing total sleep time after 1 month and 3 months of treatment. Importantly, dual orexin receptor antagonists increased subjective total sleep time. Finally, daridorexant showed a favorable safety profile, whereas lemborexant and suvorexant were associated with higher rates of treatment-emergent adverse events than placebo, without an increase in serious adverse events.

Conclusions: Despite limited evidence, dual orexin receptor antagonists appear effective and generally safe for treating chronic insomnia in the elderly, supporting their role as a valuable therapeutic option.

Keywords: DORAs; almorexant; chronic insomnia; daridorexant; dual orexin receptor antagonists; elderly; lemborexant; polysomnography; sleep; suvorexant.

- 45 references
- 4 figures

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links

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. 2026 Aug 15:407:121795.

doi: 10.1016/j.jad.2026.121795. Epub 2026 Apr 13.

The impact of physical multimorbidity on common mental disorders and the role of loneliness and social support: A three-year follow-up study

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Affiliations Expand

- PMID: 41985760

- DOI: 10.1016/j.jad.2026.121795

Abstract

Introduction: This research aimed to examine: (1) the role of chronic physical multimorbidity as a risk factor for common mental disorders, (2) the mediating effects of social support and loneliness on the relationship between physical multimorbidity and common mental disorders, and (3) the association between mediating factors (social support and loneliness) and common mental disorders, as well as potential moderating effects among them in this association.

Methods: A total of 1380 individuals aged 18 and above were interviewed on two occasions between 2019 and 2024. Common mental disorders were evaluated using an adapted version of the Composite International Diagnostic Interview. Physical multimorbidity was identified using the Functional Comorbidity Index. Loneliness was evaluated using the Three-Item Loneliness Scale. The Oslo Social Support Scale was used to assess social support. Logistic regression models, including mediation and moderation analysis, were used to analyze the data.

Results: Both physical multimorbidity and loneliness were longitudinally associated with common mental disorders. Loneliness and social support mediated the relationship between physical multimorbidity and mental disorders, accounting for 9.75% and 3.05% of the effect, respectively. The association between loneliness and common mental disorders was moderated by social support, with the impact of loneliness on common mental disorders being stronger in those with poor social support.

Conclusion: Improving social support to relieve loneliness might result in a decline in the prevalence of common mental disorders in people with chronic physical conditions.

Keywords: Chronic physical conditions; Common mental disorders; Loneliness; Mediating analysis; Social support.

Conflict of interest statement

Declaration of competing interest The authors declare no competing financial interests or personal relationships relevant to this work.

Supplementary info

MeSH termsExpand

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

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Medicine (Baltimore)

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. 2026 Aug 14;105(33):e50270.

doi: 10.1097/MD.0000000000050270.

Associations of the magnesium depletion score with the prevalence and mortality of chronic respiratory diseases: Analyses of NHANES 2003-2018

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- PMID: 42601770

- DOI: 10.1097/MD.0000000000050270

Abstract

Chronic respiratory diseases (CRDs) remain a substantial global health burden. The magnesium depletion score (MDS) integrates clinical factors associated with magnesium loss, but its associations with CRD prevalence and mortality remain unclear. We examined these associations in a nationally representative sample of US adults. We conducted a cross-sectional prevalence analysis and a prospective mortality analysis using data from the National Health and Nutrition Examination Survey (NHANES) 2003-2018. CRDs were defined by self-reported physician diagnoses of asthma, chronic obstructive pulmonary disease, chronic bronchitis, or emphysema. Survey-weighted logistic and Cox regression examined CRD prevalence and all-cause mortality, respectively. Additional analyses included subgroup analyses, receiver operating characteristic (ROC) curves, and survival Shapley additive explanations. Among 30,044 participants, 5588 had CRDs. Compared with MDS = 0, the fully adjusted odds ratios for CRD prevalence were 1.17 (95% confidence interval [CI], 1.04-1.32), 1.27 (95% CI, 1.10-1.48), and 1.34 (95% CI, 1.11-1.62) for MDS = 1, MDS = 2, and MDS ≥3, respectively. Exploratory interaction tests were significant for race, systemic immune-inflammation index, and poverty-income ratio. Among 5581 participants with CRDs, MDS ≥3 was associated with higher all-cause mortality (hazard ratio, 1.59; 95% CI, 1.06-2.37), whereas lower MDS categories were not. MDS alone yielded time-dependent area under the curves ranging from 0.734 to 0.778, while its contribution within the multivariable survival model showed an overall increasing trend across MDS values. Higher MDS was associated with greater CRD prevalence, and MDS ≥3 was associated with higher all-cause mortality among participants with CRDs. Prospective studies incorporating

direct measures of magnesium status and clinically validated respiratory outcomes are needed to confirm these findings.

Keywords: NHANES; all-cause mortality; chronic respiratory diseases; magnesium depletion score; prevalence.

Conflict of interest statement

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

- 33 references

Supplementary info

MeSH terms, SubstancesExpand

Full text links

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Cite

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J Allergy Clin Immunol Pract

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. 2026 Aug 14:S2213-2198(26)00687-2.

doi: 10.1016/j.jaip.2026.08.008. Online ahead of print.

Long-Acting Muscarinic Antagonist as an Alternative to Inhaled Corticosteroids in Type 2-Low Mild Asthma: A Randomized Crossover Non-inferiority Trial

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Affiliations Expand

- PMID: 42600984

- DOI: 10.1016/j.jaip.2026.08.008

Abstract

Background: Type 2 (T2)-low asthma is often less responsive to inhaled corticosteroids (ICS); however, optimal controller strategies for this phenotype remain inadequately defined.

Objective: To evaluate whether long-acting muscarinic antagonists (LAMA) are non-inferior to ICS in patients with T2-low mild asthma.

Methods: In this multicenter, pragmatic, randomized, open-label, crossover trial, adults with T2-low mild asthma (blood eosinophils <300/µL, and either FeNO <25 ppb or sputum eosinophils <3%) were randomized 1:1 to 6 months of ICS followed by 6 months of LAMA, or vice versa. The primary outcome was a composite treatment-success endpoint. Non-inferiority was established if the lower bound of the 95% confidence interval (CI) for the success rate difference was greater than -10 percentage points.

Results: Among 150 randomized patients, 89 completed both phases (per-protocol population). Treatment success was 7.9 percentage points higher with LAMA (95% CI, -2.9 to 18.8; P<0.001), consistent with two intention-to-treat analyses (risk differences, 4.1-4.2 percentage points). In another intention-to-treat analysis where all uncompleted phases were considered as failures, non-inferiority was not established (-3.3 percentage points; 95% CI, -11.3 to 4.5), though it was supported under a non-responder imputation approach for missing data (one-sided P = 0.020). The favorable effect was more pronounced in patients aged <65 years. Exacerbation rates did not differ significantly, and symptom control and lung function remained stable across both phases.

Conclusion: In patients with T2-low mild asthma, LAMA monotherapy may be non-inferior to ICS and may be considered an alternative controller option for selected patients.

Keywords: T2-low inflammation; asthma; inhaled corticosteroids; long-acting muscarinic antagonists.

Full text links

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Cite

3

J Allergy Clin Immunol Pract

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. 2026 Aug 14:S2213-2198(26)00689-6.

doi: 10.1016/j.jaip.2026.08.010. Online ahead of print.

Persistent uncontrolled severe asthma despite widespread biologic use: care gaps from the French FASE2-CPHG real-world study

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Affiliations Expand

- **PMID: 42600982**

- DOI: 10.1016/j.jaip.2026.08.010

Abstract

Background: Biologic therapies have transformed the management of severe asthma, yet many patients in routine care remain symptomatic. Most real-world data originate from tertiary centers and may not reflect broader healthcare delivery.

Objective: To describe disease control, exacerbations, adherence, comorbidities, phenotypes, and care gaps in adults with severe asthma managed in French non-academic hospitals in the biologic's era.

Methods: FASE2-CPHG was a national, multicenter, cross-sectional study conducted between 2022 and 2023 in French non-academic hospitals. Adults with GINA 2022 Step 5 asthma were consecutively included during routine care. Physicians completed electronic case report forms and patients completed questionnaires assessing asthma control (ACT), adherence (Girerd score), anxiety and depression (HADS), and physical activity (Ricci & Gagnon's questionnaire). Clinical characteristics, biomarkers, imaging, exacerbations, and treatments including biologics were recorded.

Results: Among 970 patients (mean age 54.5 ±15.8 years; 66.3% female), 71.2% were receiving biologic therapy. Despite these treatments, 59.8% had partially controlled or uncontrolled asthma according to ACT questionnaire. Globally, 62.6% experienced at least one exacerbation in the previous year. The median annual exacerbation rate was 1 (IQR 0-3). Only 31.6% of patients reported full adherence, whereas 88.7% were considered adherent by physicians. Anxiety and depressive symptoms were present in 45.6% and 24.6% of patients, respectively. Biologic therapy was prescribed in 71.2% of patients with omalizumab used in most case (41.2%). The mean duration of the ongoing treatment with biologics was 2.9 years (±5.1).

Conclusions: In routine non-academic hospital practice, biologics are widely implemented but a majority of patients remains uncontrolled. Major care gaps include unrecognized poor adherence, high psychological, metabolic and ENT comorbidity burden, and incomplete optimization of inhaled therapy. Addressing these gaps may yield gains comparable to the introduction of new biologic agents.

Keywords: Asthma; drug therapy; epidemiology; observational study; severe asthma.

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Br J Clin Pharmacol

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. 2026 Aug 14.

doi: 10.1002/bcp.70772. Online ahead of print.

Twenty years of inhaler therapy: A nationwide drug utilization study

Katrine Bitsch Johansen[1,2], Lars Christian Lund[3], Zandra Nymand Ennis[2], Andrew Scourfield[4], Anders Løkke[5,6], Sidsel Arnspang Pedersen[1,2]

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- PMID: 42599068

- DOI: 10.1002/bcp.70772

Abstract

Aims: This study aimed to map nationwide trends and prescribing patterns in inhaler use from 2004 to 2023. In light of evolving clinical guidelines and attention to the environmental impact of inhalers within recent years, we also examined variation in prescribing behaviour and patient-level treatment choices.

Methods: Using nationwide health registries, we identified all individuals redeeming prescriptions for pressurized metered-dose inhalers (pMDIs), dry powder inhalers (DPIs) and soft mist inhalers (SMIs) in Denmark over the past 20 years. Analyses included trends in total use, new and chronic use, patient demographics, comorbidities, markers of disease severity and prescribing sector. Subgroup analyses stratified use patterns by inferred diagnosis (asthma vs. COPD) and repeated main analyses excluding children <6 years.

Results: From 2004 to 2023, total inhaler doses increased by 15%, driven primarily by a 62% rise in pMDI use. The pMDI share of the total doses grew from 29% to 42%. New pMDI users increased by 34%, while long-term pMDI users nearly doubled (93%). DPI use declined slightly. pMDI and SMI users had higher rates of exacerbations and prednisolone use compared to DPI users. More than 90% of inhalers were prescribed in primary care.

Conclusions: pMDI use in Denmark has increased substantially over the past two decades, particularly among long-term users. These findings highlight a complex interplay of clinical, behavioural and systemic factors influencing inhaler choice. As clinical guidelines evolve and awareness of inhalers' environmental impact grows, targeted strategies are needed to optimize prescribing practices for both improved patient outcomes and climate sustainability.

Keywords: climate impact; drug utilization; green inhalers; inhaler therapy; prescription data.

- 30 references

Full text links

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Cite

5

Expert Rev Vaccines

. 2026 Dec;25(1):2715855.

doi: 10.1080/14760584.2026.2715855. Epub 2026 Aug 14.

Consensus based expert recommendations for management and prevention of RSV infections in older adults in emerging market countries: results from an expert panel structured survey

Otavio Cintra [1], Zainab Alsharef [2], Abhay Phansalkar [3], Antonio Anzueto [4], Mark Loeb [5]

Affiliations Expand

- PMID: 42596759

- DOI: 10.1080/14760584.2026.2715855

Abstract

Background: Respiratory syncytial virus (RSV) can cause serious disease in older adults (OAs), particularly those with comorbidities. It is a leading cause of acute respiratory illness and lower respiratory tract infections in adults ≥60 years. Its impact on morbidity, mortality, and healthcare systems is becoming evident. Questions about the burden of disease (BoD) are raised due to underdiagnosis and the similarity with other respiratory illnesses. First opportunities for prevention came in 2023 and 2024, with vaccines approved for ≥60 years, expanding eligibility to additional age groups.

Research design and methods: A modified Delphi approach through a questionnaire survey and virtual consensus workshop with 27 experts in respiratory and infectious diseases from 12 emerging market countries was done to reach consensus on diagnosis, prevention, and treatment of RSV in OAs.

Results: The panel recommends the introduction of a universal vaccination program for all adults aged ≥70 years, and vaccination for all adults aged ≥60 years with comorbidities. The need for increased awareness, better testing, and national and international guidelines was also agreed.

Conclusion: The agreements highlight that RSV vaccination for OAs should be prioritized. Educating clinicians and patients, improving surveillance, and integrating RSV vaccination into health policies are key to reducing BoD in OAs.

Keywords: Burden of disease; consensus survey; older adults; public health policy; respiratory disease; respiratory syncytial virus; vaccines.

Plain language summary

Respiratory syncytial virus (RSV) can cause serious disease in older adults, especially those with chronic health problems such as asthma, chronic obstructive pulmonary disease or heart failure. Each year, RSV leads to thousands of hospitalizations and deaths, yet it is often underdiagnosed because testing is limited and symptoms overlap with flu or COVID-19. This study brought together 27 doctors and researchers from 12 countries to look at how RSV affects older adults and how it is currently diagnosed, prevented, and treated. Using a questionnaire-

based survey and a group discussion, the experts agreed that vaccination is the best way to protect older adults from RSV. They also agreed that there is a need for greater awareness of RSV, better testing, and clearer national and international guidelines.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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Cite

6

Am J Respir Cell Mol Biol

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. 2026 Aug 14:aanag168.

doi: 10.1093/ajrcmb/aanag168. Online ahead of print.

GPCR Biology-Informed Drug Discovery in Asthma

Raymond B Penn[1]

Affiliations Expand

- PMID: 42596590

- DOI: 10.1093/ajrcmb/aanag168

Abstract

Advances in GPCR biology and drug-discovery technology are simultaneously reshaping what can be targeted in asthma and how those strategies must be validated. Recent insights into biased signaling, receptor dimerization and signaling microdomains have revealed new therapeutic opportunities beyond the limitations of traditional β_2-agonist bronchodilation and cytokine-targeted biologics. At the same time, innovations in structural biology, computational modeling, machine learning, biosensor-based pharmacology, and physiologically relevant airway models have transformed the interrogation of GPCRs and the engineering of therapeutics that target them. This review synthesizes these developments, emphasizing how emerging GPCR concepts inform modern discovery platforms, how receptor- and post-receptor signaling control points can be targeted, and how validation across artificial and physiologic systems improves translational fidelity. We further discuss how GPCR therapeutics may reshape clinical development and complement existing biologic therapies in asthma.

Cite

7

Clin Case Rep

. 2026 Aug 12;14(8):e73330.

doi: 10.1002/ccr3.73330. eCollection 2026 Aug.

Improvement of Severe Volume Dependent Airway Closure With Tezepelumab: A Case Report

Philipp Suter[1], Robert Greig[1], Rory Chan[1], Brian J Lipworth[1]

Affiliations Expand

- PMID: 42592142
- PMCID: PMC13463237
- DOI: 10.1002/ccr3.73330

Abstract

Severe asthma may be complicated by airway remodeling, manifesting as higher symptom burden, airflow limitation and reduced treatment response. The effect of biologics on lung function changes remains uncertain. We report a 31-year-old man with severe uncontrolled asthma and chronic rhinosinusitis with nasal polyposis, characterized by frequent exacerbations, marked type 2 inflammation, and pronounced volume-dependent airway closure on spirometry with evidence of small airway dysfunction. Despite optimized high-dose inhaled therapy, disease control remained poor. Treatment with tezepelumab was initiated following multidisciplinary assessment. After 12 months, the patient achieved normalization of symptoms, biomarkers, lung function, and flow-volume loop morphology without any further exacerbations. This case highlights a striking functional recovery associated with thymic stromal lymphopoietin blockade and suggests a potential role for tezepelumab in modifying early airway remodeling beyond symptom control.

Keywords: asthma; spirometry; tezepelumab; type 2 inflammation.

Conflict of interest statement

Philipp Suter reports a relationship with AstraZeneca UK Limited that includes: speaking and lecture fees. Philipp Suter reports a relationship with GSK that includes: speaking and lecture fees. Philipp Suter reports a relationship with Lung League Fribourg (Switzerland) that includes: funding grants without influence on work reported in this paper. Philipp Suter reports a relationship with Swiss Lung Foundation (Switzerland) that includes: funding grants without influence on work reported in this paper. Robert Greig reports a relationship with AstraZeneca UK Limited that includes: speaking and lecture fees and support attending BTS. Rory Chan reports a relationship with AstraZeneca UK Limited that includes: speaking and lecture fees and travel reimbursement. Rory Chan reports institutional grants awarded from Asthma+Lung UK, Chiesi, AstraZeneca and GSK; serving on advisory boards for AstraZeneca and Vitalograph; personal fees (talks and/or drafting educational material) from AstraZeneca, Chiesi, Thorasys and Vitalograph; and support attending meetings from AstraZeneca, Chiesi, NIOX, Sanofi-Regeneron and Vitalograph. Brian J. Lipworth reports a relationship with AstraZeneca UK Limited that includes: consulting or advisory, funding grants, speaking and lecture fees, and travel reimbursement. Brian J. Lipworth reports a relationship with GSK that includes: non-financial support. Brian J. Lipworth reports a relationship with Sanofi that includes: speaking and lecture fees. Brian J. Lipworth reports a relationship with Circassia Pharmaceuticals Plc that includes: consulting or advisory and speaking and lecture fees. Brian J. Lipworth reports a relationship with Teva UK Ltd. that includes: consulting or advisory, funding grants, speaking and lecture fees, and travel reimbursement. Brian J. Lipworth reports a relationship with Chiesi Ltd. that includes: consulting or advisory, funding grants, speaking and lecture fees, and travel reimbursement. Brian J. Lipworth reports a relationship with Lupin Healthcare UK Ltd. that includes: consulting or advisory. Brian J. Lipworth reports a relationship with Glenmark Pharmaceuticals Limited that includes: consulting or advisory. Brian J. Lipworth reports a relationship with Dr. Reddy's Laboratories Ltd. that includes: consulting or advisory. Brian J. Lipworth reports a relationship with Sandoz UK Ltd. that includes: consulting or advisory. Brian J. Lipworth reports a relationship with Boehringer Ingelheim Ltd. that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Brian J. Lipworth reports a relationship with Mylan Pharmaceuticals Inc. that includes: consulting or advisory and speaking and lecture fees. The son of Dr. Brian Lipworth is presently an employee of AstraZeneca.

- **12 references**
- **1 figure**

Full text links

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8

Eur Clin Respir J

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. 2026 Aug 10;13(1):2705048.

doi: 10.1080/20018525.2026.2705048. eCollection 2026.

Three-year sustained remission with mepolizumab in a rare eosinophilic disease: idiopathic chronic eosinophilic pneumonia

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Affiliations Expand

- PMID: 42591896
- PMCID: PMC13463446
- DOI: 10.1080/20018525.2026.2705048

Abstract

Background: Idiopathic chronic eosinophilic pneumonia (ICEP) is a rare eosinophilic lung disease with a high relapse rate and substantial oral corticosteroid (OCS) burden. While mepolizumab, an anti-IL-5 monoclonal antibody, has shown promise in case reports and small series, evidence from long-term follow-up studies remains limited.

Methods: We conducted a single-centre, registry-based prospective observational study including a small case series of patients with ICEP and concomitant severe eosinophilic asthma who were treated with mepolizumab (100 mg every 4 weeks) for at least 36 months. Data were extracted from the Ege Severe Asthma Registry ESAR, a dynamic real-world database. ICEP relapses, asthma exacerbations, peripheral eosinophil counts, radiological findings, annual cumulative methylprednisolone dose and OCS use duration were evaluated longitudinally before and after mepolizumab initiation.

Results: During the two-year inclusion period, 150 new severe asthma patients were registered in the Ege Severe Asthma Registry ESAR; among them, six patients (n:6/150) were initiated on monthly 100 mg mepolizumab based on coexisting diagnoses of severe asthma and relapsing ICEP. All patients had a history of corticosteroid-responsive disease with frequent relapses. After completing a three-year follow-up under regular mepolizumab treatment, significant reductions were observed in oral corticosteroid (OCS) use duration ($p = 0.027$), annual cumulative methylprednisolone dose, which decreased from 3600 mg/year [2400-4680] to 1080 mg/year [0-1440] ($p = 0.028$), peripheral blood eosinophil count ($p = 0.028$), and the number of ICEP relapses, which declined from a median of 3.5 to 0.0 ($p = 0.027$).

Conclusion: To our knowledge, this study represents one of the longest real-world follow-up reports of patients with the rare disease ICEP receiving Anti-IL-5 mepolizumab at the severe asthma treatment dose. Our results indicate that, over a three-year course, mepolizumab 100 mg monthly provided sustained relapse control and markedly reduced OCS dependency in ICEP, a disease well known for its frequent relapses.

Keywords: Idiopathic chronic eosinophilic pneumonia; anti–IL-5 therapy; lung eosinophilia; mepolizumab; severe eosinophilic asthma.

Conflict of interest statement

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

- 23 references
- 3 figures

Full text links

Proceed to details

Cite

9

Cell

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. 2026 Aug 11:S0092-8674(26)00866-4.

doi: 10.1016/j.cell.2026.07.034. Online ahead of print.

Trans-regulatory gene mapping prioritizes disease drivers in asthma

Isabella M Salamone [1], Peixin Tian [2], Zining Qi [3], Jiaqi Zhao [4], Li Zhang [5], Qilong Tan [6], Jinghui Li [6], Ashley N Michael [7], Alexis G Thornburg [5], Noboru J Sakabe [5], Mark Minogue [5], Zachary T Weber [5], Bohao Chen [8], Cezary Ciszewski [9], Xin He [5], Hardik Shah [10], Donata Vercelli [7], Carole Ober [5], Hening Lin [11], Zhonghua Liu [12], Marcelo A Nóbrega [13], Xuanyao Liu [14]

Affiliations Expand

- PMID: 42580338

- DOI: 10.1016/j.cell.2026.07.034

Abstract

Deciphering which genes are most important to disease etiology is a central challenge in human genetics. While genome-wide association studies have cataloged thousands of variants, it's been proposed that most are indirect regulators of a limited, currently unidentified set of central disease-driving genes, defined here as disease-proximal genes (DPGs). Here, we introduce DANDELION, a mediation-inspired statistical framework that prioritizes DPGs by integrating trans-regulatory effects from disease-relevant tissues with gene-level burden from whole-exome sequencing. Applying DANDELION to asthma uncovers novel DPGs that escape detection by conventional methods. CRISPR screens in epithelial and T cells find that most DPGs regulate key asthma-related cellular phenotypes. We also demonstrate that loss of two DPGs, SLC27A3 and SCD, affects inflammation and airway remodeling in a mouse model of allergic asthma. Our study establishes DANDELION as a powerful framework for prioritizing novel, therapeutically actionable genes and pathways underlying disease pathogenesis.

Keywords: asthma; complex traits; trans-gene regulation.

Conflict of interest statement

Declaration of interests The authors declare no competing interests.

Full text links

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Cite

10

Rhinology

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. 2026 Aug 11.

doi: 10.4193/Rhin26.207. Online ahead of print.

Effectiveness of mepolizumab in eosinophilic asthma and chronic rhinosinusitis with nasal polyps

E Chiner[1 2], I Boira[1], J L Lafuente[3], M Antón[4], M A Bernabeu[5], P Fernández[1], V Esteban[1], M Llombart[1]

Affiliations Expand

- **PMID: 42578487**
- **DOI: 10.4193/Rhin26.207**

Abstract

Chronic rhinosinusitis with nasal polyps (CRSwNP) is a chronic inflammatory disease affecting 2-4% of the population which has a significant impact on quality of life. Approximately 40% to 60% of people with CRSwNP also have eosinophilic asthma, reflecting the unified airway concept characterised by type 2 inflammation driven by interleukin (IL)-4, IL-5 and IL-13.

Full text links

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Cite

11

ERJ Open Res

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. 2026 Aug 10;12(4):01690-2025.

doi: 10.1183/23120541.01690-2025. eCollection 2026 Jul.

COMSA-MEWS: a simple quantitative algorithm for determining response to biologics in severe asthma, tested in a real-world mepolizumab study

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Affiliations Expand

- PMID: 42577718

- PMCID: PMC13454858

- DOI: 10.1183/23120541.01690-2025

Abstract

Background: A 5-domain composite Core Outcome Measures set for Severe Asthma (COMSA) has been introduced for evaluation of treatment response.

Methods: The COMSA evaluation strategy was tested in a real-world study of 78 patients with severe asthma with blood eosinophilia taking mepolizumab. Exacerbations, oral corticosteroid (OCS) use, forced expiratory volume in 1 s, Asthma Quality of Life Questionnaire score and Asthma Control Questionnaire-5 results were determined before treatment and 4, 12, 24 and 36 months thereafter. Responses were quantified as the sum of changes in domains using both the relative CONFiRM (CompOsite iNdexes For Response in asthMa) scale, where exacerbations and OCS use are given most weight, and Modified Equal Weight Score (MEWS), where each domain gives equal weight. Both scales use identical cut-offs for degree of change within domains.

Results: After 1 year, the MEWS scoring system classified 13% as non-responders, 28% as sufficient-responders, 40% as substantial-responders and 19% as super-responders. Using CONFiRM, the corresponding group stratification was 22%, 22%, 33% and 23%, respectively. Group assignments remained unchanged at 24 and 36 months, for 66% of patients in COMSA-MEWS and 68% in COMFiRM. Baseline exhaled nitric oxide was highest among the super-responders, whereas other type 2 markers were similar across the groups.

Conclusion: In this first real-world application, the COMSA stratification assigned patients into distinct, graded responder groups that may be used in clinical research and management of severe asthma. Although patient-reported symptoms are given greater weight in COMSA-MEWS, the two algorithms performed similarly.

Conflict of interest statement

Conflict of interest: V. Yasinska declares advisory boards for AstraZeneca (AZ), GlaxoSmithKline (GSK) and Sanofi with payment to her employer; and honoraria for lectures from AZ and GSK, and grant from AZ, all payment outside the submitted work. J. Kolmert declares personal fees from Lipum AB. A. Bossios declares a grant from AZ was paid to their institution outside the submitted work; honoraria and lecture fees from Chiesi, GSK and AZ, paid to their institution, outside the submitted work; and is Head of Assembly 5 (Airway Diseases, Asthma, COPD and Chronic Cough) of the European Respiratory Society, co-chair of the Nordic Severe Asthma Network, a member of the steering committee of SHARP (ERS severe asthma Clinical Research Collaboration) and a member of the steering committee of the Swedish National Airway Register. N. Lazarinis declares honoraria from AZ, Chiesi, Sanofi and GSK, and an advisory board for AZ. P.H. Howarth is employed by GSK. C. Brightling declares support from NIHR BRC and IMI-3TR; and grants and consultancy fees from 4D Pharma, Areteia, AZ, Chiesi, Genentech, GSK, Mologic, Novartis, Regeneron Pharmaceuticals, Roche and Sanofi. C. Janson declares honoraria for educational activities and lecture from ALK, AZ, Boehringer Ingelheim, Chiesi, GSK, Novartis, Orion, Sanofi, Stallergenes and TEVA. J. Mjösberg declares honoraria for lectures from AstraZeneca, Chiesi, Novartis and Sanofi outside the submitted work. B. Dahlén declares personal fees from the Swedish Medical Products Agency and Affibody; and honoraria for lectures and personal fees from AZ, GSK and Sanofi. S-E. Dahlén declares Swedish academic grants (e.g. MRC, Heart–Lung Foundation, the Swedish Strategic Foundation, the Stockholm County Research Funds and Karolinska Institutet); grants from AZ, GSK, Regeneron and Sanofi paid to his institution; consulting fees from Affibody, AZ, GSK, Regeneron and Sanofi; and lecture honoraria from GSK, AZ and Sanofi. The other co-authors declare no conflict of interest for this article.

- **27 references**
- **4 figures**

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12

Editorial

ERJ Open Res

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. 2026 Aug 10;12(4):00433-2026.

doi: 10.1183/23120541.00433-2026. eCollection 2026 Jul.

Hormone replacement therapy and asthma in women: untangling a complex relationship

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Affiliations Expand

- PMID: 42577644

- PMCID: PMC13454860

- DOI: 10.1183/23120541.00433-2026

Abstract

Sex hormones may be treatable traits in asthma among women. Effects of hormone replacement therapy (HRT) on asthma exacerbations are mixed and likely vary by HRT-related factors and individual susceptibility, warranting further study. https://bit.ly/4cZXVzH.

Conflict of interest statement

Conflicts of interest: J.G. Wang has received grant support from CHEST.

- 23 references

Supplementary info

Publication typesExpand

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Cite

13

ERJ Open Res

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. 2026 Aug 10;12(4):01599-2025.

doi: 10.1183/23120541.01599-2025. eCollection 2026 Jul.

Hormone replacement therapy and the risk of asthma attacks: population-based cohort study

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Affiliations Expand

- PMID: 42577565

- PMCID: PMC13454878

- DOI: 10.1183/23120541.01599-2025

Abstract

Background: Women experience higher rates and greater severity of asthma after puberty, suggesting that sex hormones play a key role in airway disease. Hormone replacement therapy (HRT), which acutely alters circulating sex hormone levels, provides a useful model to examine their effects on asthma attacks. We sought to examine the association between HRT use and asthma attacks.

Methods: We obtained a cohort of women with asthma, aged 45-60 years, using nationwide UK primary care health records linked to hospital and mortality data, 2004-2020, to compare HRT users to nonusers. We applied inverse-probability of treatment weighting and Cox proportional hazards, accounting for demographics, asthma severity and comorbidities; stratifying by potential modifiers, including body mass index (BMI), blood eosinophil count, smoking and HRT type (oestrogen-only, progesterone-only and combined).

Results: 182 010 women were eligible for the study, of whom 9663 were incident HRT users and 172 347 were nonusers. The median age was 52 years (interquartile range 50-55 years). HRT users and nonusers were broadly similar in terms of BMI and smoking history, but nonusers had slightly higher proportions residing in more deprived areas, with more comorbidities, higher reliever use and asthma attacks in the year before study entry, but lower use of preventer inhalers. After applying weighting, there was no association found between HRT use and asthma attacks (weighted hazard ratio 0.97, 95% CI 0.90-1.04). There was no modification of that association by blood eosinophil level, BMI, smoking history or HRT type.

Conclusion: HRT use is not associated with asthma attacks in women with established asthma aged 45-60 years.

Conflict of interest statement

Conflict of interest: B. Lee reports grants from Asthma+Lung UK and is a member of the early career mentoring programme of this journal. C.I. Bloom reports grants from Asthma+Lung UK, AstraZeneca, Medical Research Council, European Respiratory Society, and the National Institute for Health and Care Research. All other authors declare no competing interests. None of the authors have financial relationship with a commercial entity that has an interest in the subject of this manuscript. The authors declare no competing interests.

- 14 references
- 2 figures

Full text links

Proceed to details

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14

J Allergy Clin Immunol Pract

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. 2026 Aug 10:S2213-2198(26)00634-3.

doi: 10.1016/j.jaip.2026.07.037. Online ahead of print.

Discordance Between ICD-10 Asthma Severity Codes and Treatment-Based Measures of Disease Severity

Yixin Tang[1], Jeffrey M Chambliss[2], Zhenglin Yuan[3], Wenqi Shi[1], Timothy G Chow[2], Luyu Xie[4], Timothy Chow[5]

Affiliations Expand

- **PMID: 42575430**

- **DOI: 10.1016/j.jaip.2026.07.037**

No abstract available

Keywords: Administrative Claims Data; Clinical Concordance; ICD-10; Medication-Based Severity Index; asthma; diagnostic accuracy.

Full text links

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Cite

15

Editorial

J Allergy Clin Immunol

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. 2026 Aug 10:S0091-6749(26)00563-4.

doi: 10.1016/j.jaci.2026.07.020. Online ahead of print.

The importance of early life cohort studies for understanding the origins of asthma and allergic diseases and the contribution of NIAID

Patrice M Becker[1], Patricia C Fulkerson[2], Alkis Togias[2]

Affiliations Expand

- **PMID: 42575253**

- DOI: 10.1016/j.jaci.2026.07.020

No abstract available

Supplementary info

Publication typesExpand

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Cite

16

JAMA Pediatr

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. 2026 Aug 10:e263376.

doi: 10.1001/jamapediatrics.2026.3376. Online ahead of print.

Effectiveness of Oseltamivir in Hospitalized Children With Laboratory-Confirmed Influenza, 2014-2023

Kacie Rytlewski[1], Angela Dunn[2], Alissa O'Halloran[3], Jennifer Habeck[3,4], Isaac Armistead[5], Nisha B Alden[5], Darpun Sachdev[6], Pam Daily Kirley[7], James Meek[8], Kimberly Yousey-Hindes[8], Satoshi Kamidani[9,10,11], Kyle P Openo[11,12], Patricia A Ryan[13], Maya Monroe[13], Sue Kim[14], Elizabeth Urlaub[14], Ruth Lynfield[15], Melissa McMahon[15], Chad B Smelser[16], Yomei Shaw[16], Grant Barney[17], Jemma V Rowlands[17], Brenda Tesini[18], Christina Felsen[18,19], Krista Lung[20], Melissa Sutton[21], Ann Thomas[21], H Keipp Talbot[22], William Schaffner[22], Andrea George[23], Holly Staten[23], Jessica R Cataldi[1], Samuel R Dominguez[1], Catherine H Bozio[3], Suchitra Rao[1]

Affiliations Expand

- PMID: 42573991

- PMCID: PMC13458948

- DOI: 10.1001/jamapediatrics.2026.3376

Abstract

Importance: National organizations recommend antiviral treatment for hospitalized children with influenza; however, use in this setting has recently declined. Studies of oseltamivir effectiveness in children are limited by misclassification bias, unknown symptom onset date, and incomplete capture of antiviral use prior to admission.

Objective: To assess the association between oseltamivir receipt and intensive care unit (ICU) admission and hospital length of stay (LOS) among pediatric influenza-associated hospitalizations.

Design, setting, and participants: This cohort study used data that were obtained from the Influenza Hospitalization Surveillance Network (FluSurv-NET), which conducts US population-based surveillance for laboratory-confirmed influenza hospitalizations for all ages across 13 states. The study data include seasons 2014 to 2015 through 2022 to 2023, excluding 2020 to 2021. Participants included children aged younger than 18 years who were hospitalized with laboratory-confirmed influenza and for whom a respiratory symptom onset date was available. These data were analyzed from October 2024 through May 2026.

Exposures: Oseltamivir receipt as a time-dependent exposure.

Main outcome(s) and measure(s): The primary outcome was time from symptom onset to ICU admission. Secondary outcome was time from admission to discharge (LOS). Adjusted Cox proportional hazard models (aHR) with oseltamivir receipt as a time-dependent exposure were used.

Results: After exclusions, 6044 influenza cases were included in the primary ICU analysis, of whom 4240 (70.2%) received oseltamivir, and 7103 cases were included in the secondary LOS analysis, of whom 5746 (80.9%) received oseltamivir. In the ICU analysis, the median (IQR) age was 3 (1-7) years, 3382 (56%) were male and 3721 (44%) were female, and 2937 (49%) had 1 or more medical comorbidity-the most common of which was asthma in 1547 children (26%). In adjusted models, compared with untreated children, oseltamivir treatment reduced the hazard of ICU admission (aHR, 0.69; 95% CI, 0.60-0.80) and shortened LOS (analyzed as hazard of hospital discharge; aHR, 1.13; 95% CI, 1.06-1.21).

Conclusions and relevance: In this cohort of children hospitalized with influenza, oseltamivir treatment was significantly associated with a reduced risk of ICU admission by 31% and decreased hospital LOS. These findings demonstrate the benefits of oseltamivir receipt and support current national recommendations for oseltamivir treatment as soon as possible in children hospitalized with suspected or laboratory-confirmed influenza.

Conflict of interest statement

Conflict of Interest Disclosures: Dr Armistead reported grants from the US Centers for Disease Control and Prevention/Colorado Department of Public Health and Environment and received funding through the US Centers for Disease Control and Prevention Emerging Infections Program cooperative agreement during the conduct of the study. Dr Alden reported grants from the US Centers for Disease Control and Prevention Emerging Infections Program cooperative agreement during the conduct of the study. Dr Daily Kirley reported grants from the Heluna Health/California Emerging Infections Program and that the US Centers for Disease Control and Prevention provided funds for data collection during the conduct of the study. Dr Meek reported grants from the US Centers for Disease Control and Prevention funds the Connecticut Emerging Infections Program during the conduct of the study. Dr Yousey-Hindes reported grants from the US Centers for Disease Control and Prevention during the conduct of the study. Dr Kamidani reported grants to Emory from Pfizer, Moderna, Meissa, Sanofi, and Bavarian Nordic outside the submitted work. Dr Ryan reported a cooperative agreement from the US Centers for Disease Control and Prevention during the conduct of the study. Dr Monroe reported grants from the US Centers for Disease Control and Prevention Emerging Infections Program during the conduct of the study. Dr Kim reported grants from the Michigan Department of Health and Human Services Emerging

Infections Program during the conduct of the study. Dr Urlaub reported grants from the US Centers for Disease Control and Prevention Emerging Infections Program during the conduct of the study. Dr Lynfield reported grants from Emerging Infections Program Cooperative Agreement from the US Centers for Disease Control and Prevention during the conduct of the study; and she is an Associate Editor for AAP Red Book (Report of the Committee on Infectious Diseases) and received a fee for this work. Dr Smelser reported grants from US Centers for Disease Control and Prevention Emerging Infections Program New Mexico Department of Health has been part of Emerging Infections Program for over 20 years during the conduct of the study. Dr Shaw reported grants from the US Centers for Disease Control and Prevention The New Mexico Department of Health for RESP-NET activities during the conduct of the study. Dr Tesini reported personal fees from the Merck Manuals Editorial Board outside the submitted work. Dr Sutton reported grants from the US Centers for Disease Control and Prevention Emerging Infections Program during the conduct of the study. Dr Talbot reported grants from the US Centers for Disease Control and Prevention during the conduct of the study and consulting from Bredenberg outside the submitted work. Dr Schaffner reported grants from the US Centers for Disease Control and Prevention during the conduct of the study. Dr George reported grants from Council of State and Territorial Epidemiologists funding to participate in RESP-NET during the conduct of the study. Dr Cataldi reported grants from US Centers for Disease Control and Prevention during the conduct of the study. Dr Dominguez reported grants from Karius Diagnostics, Delve Bio, Biofire, and Pfizer and personal fees from Karius Diagnostics outside the submitted work. Dr Rao reported grants from the US Centers for Disease Control during the conduct of the study. No other disclosures were reported.

- 28 references
- 3 figures

17

JAMA Pediatr

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. 2026 Aug 10:e263384.

doi: 10.1001/jamapediatrics.2026.3384. Online ahead of print.

First- and Second-Year Outcomes After Nirsevimab Immunization

Amélie Gabet[1], Epiphane Kolla[1], Ludovic Tréluyer[1 2], Marion Bertrand[1], Marie-Joelle Jabagi[1], Olivia Weill[3], Antoine Rachas[1], Valérie Olié[1], Mahmoud Zureik[1 4]

Affiliations Expand

- PMID: 42573985

- **PMCID: PMC13458943 (available on 2027-08-10)**

- **DOI: 10.1001/jamapediatrics.2026.3384**

Abstract

Importance: The consistency of nirsevimab effectiveness across consecutive seasons and its broader clinical protective effects remain to be fully characterized.

Objective: To assess whether first-season effectiveness of nirsevimab against respiratory syncytial virus (RSV)-lower respiratory tract infection (LRTI)-related hospitalizations is maintained during a new RSV season, whether the effectiveness persists beyond the first season, and whether nirsevimab exposure is associated with hospitalizations for non-RSV infections and asthma during the first and second years of follow-up.

Design, setting, and participants: This cohort study analyzed 2 nationwide matched cohorts using the French National Health Data System, including infants born in metropolitan France before the 2023 and 2024 immunization campaigns. Infants receiving nirsevimab were matched 1:1 to unimmunized infants. Both cohorts were followed up for 1 year after immunization, with an additional second year of follow-up for the 2023 cohort. Data analysis was performed from February 2023 to August 2025.

Exposures: Single dose of nirsevimab.

Main outcomes and measures: RSV-LRTI-related, non-RSV infection, and asthma hospitalizations were assessed using weighted Cox proportional hazards models.

Results: This cohort study included 74 672 infants in 2023 and 175 526 in 2024. At baseline, the mean (SD) age of immunized infants was 4.5 (2.0) months in the 2023 cohort; 19 633 (52.6%) were male and 17 703 (47.4%) were female. The mean (SD) age of the 2024 cohort was 4.8 (2.2) months; 44 863 immunized infants (51.1%) were male and 42 900 (48.9%) were female. Among 37 366 infant pairs in 2023 and 87 763 pairs in 2024, RSV-LRTI-related hospitalizations during the first year of follow-up occurred in 299 (0.8%) immunized vs 899 (2.4%) unimmunized infants in 2023 and 456 (0.5%) vs 1711 (1.9%), respectively, in 2024. Nirsevimab was associated with a lower rate of RSV-LRTI-related hospitalization in both the 2023 and 2024 cohort during the first year of follow-up, with effectiveness estimates of 66% (95% CI, 61%-70%) and 72% (95% CI, 69%-75%), respectively. An association with higher rates of hospitalization for ear, nose, and throat (ENT) bacterial infections was observed (2023 cohort: weighted hazard ratio [wHR], 1.36; 95% CI, 1.00-1.84; 2024 cohort: wHR, 1.43; 95% CI, 1.15-1.78). No significant association was observed for other outcomes. During the second year of follow-up, no protective association was observed for RSV-LRTI-related hospitalization (wHR, 1.03; 95% CI, 0.73-1.43). An association with higher rates of hospitalization for ENT (wHR, 1.56; 95% CI, 1.10-2.22) and asthma (wHR, 1.24; 95% CI, 1.05-1.46) was observed.

Conclusions and relevance: This study found that nirsevimab was associated with a substantial reduction in RSV-LRTI-related hospitalizations during the first year across both the 2023-2024 and 2024-2025 seasons. It was not associated with reduced hospitalizations due to non-RSV infections or asthma, nor during the second year of follow-up.

Conflict of interest statement

Conflict of Interest Disclosures: None reported.

- 45 references

Full text links

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Cite

18

Ann Am Thorac Soc

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. 2026 Aug 10:aaoag247.

doi: 10.1093/annalsats/aaoag247. Online ahead of print.

Trends in intensive care unit admissions in patients with asthma: A 10-year population-based study

Jacob McCoy[1], Teresa To[1,2,3], Jingqin Zhu[1,3], Padmaja Subbarao[1], Theo J Moraes[1], Connie L Yang[1]

Affiliations Expand

- PMID: 42573522

- DOI: 10.1093/annalsats/aaoag247

Free article

Abstract

Rationale: Intensive care unit (ICU) admissions are a key marker of asthma severity, and signal patients at highest risk for asthma-related morbidity and mortality. Examining trends in ICU care over time provides invaluable insights into shifts in the severity of asthma exacerbations, and the effectiveness of management strategies at a population level.

Objectives: We aimed to assess trends in ICU admissions and the severity of those admissions over the past 10 years in patients with asthma in Ontario, Canada.

Methods: We assembled a 10-year cross-sectional cohort of individuals with prevalent asthma aged 0-59 years using population-based health administrative databases from 2013-2022. All-cause ICU admissions were identified where asthma or an asthma-related condition was listed as the most responsible diagnosis for hospital admission. Annual asthma admission, ICU admission, invasive ventilation, mortality rates, and average length of stay in hospital were calculated and compared over time. Characteristics of patients admitted to hospital who did and did not require ICU level care were compared.

Main results: From 2013 to 2022, 7,870 ICU admissions occurred among 52,919 patients admitted to hospital with asthma. Over 30% (2685) of these admissions were of children less than 6 years

of age. Excluding the COVID pandemic period from 2020-2022, hospital admission rates have been stable. In adults, there was no significant change in ICU admission or invasive ventilation rates ($p = 0.45$, $p = 0.21$ respectively), although there was an increase in length of stay in hospital ($p < 0.0001$). In children less than 18 years of age, there was a significant increase in ICU admission rates ($p < 0.0001$) but a decrease in length of stay ($p = 0.022$), with a trend to decreasing invasive ventilation rates ($p = 0.073$). There was no significant change in in-hospital mortality.

Conclusions: ICU admission rates have not decreased over the last decade. In adults, the severity of these admissions has not improved. Although there has been an increase in ICU admissions in children, hospital stays have been shorter in duration over time with a trend to decreasing invasive ventilation rates.

Keywords: Critical care; health services research; respiration.

19

Pediatr Allergy Immunol Pulmonol

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. 2026 Aug 9:2151321X261475430.

doi: 10.1177/2151321X261475430. Online ahead of print.

Allergic Inflammation and the IL-33/ST2 Axis in Childhood Asthma: A Narrative Review of Related Pathways and Intervention Strategies

Yi Zou[1], Denian Wen[1], Cheng Wang[1], Heng Wang[1], Qionghua Wu[1]

Affiliations Expand

- PMID: 42571912

- DOI: 10.1177/2151321X261475430

Abstract

Background: Pediatric asthma is the most common disease in children, and its incidence is increasing globally. Its clinical features are usually wheezing, dyspnea, cough, and increased airway sensitivity. Exposure to dust mites in the living environment, air pollutants, and virus infections can lead to asthma. Currently, the main clinical treatment options include environmental interventions, glucocorticoids, anti-allergy drugs, and biologics targeting type-2 inflammation. However, challenges remain due to the complexity of the etiology and

pathobiology of pediatric asthma.*Results:* Interleukin-33 (IL-33) is an important member of the IL-1 cytokine family, which is produced mainly by epithelial cells and endothelial cells and binds to the receptor ST2. In inflammatory responses, IL-33/ST2 mediates the activation and recruitment of immune cells, including Th2 cells, mast cells, and eosinophils. Recent studies have revealed that IL-33/ST2 plays a crucial role in allergic asthma. This review systematically summarizes the changes in the expression of the IL-33/ST2 signaling axis and its core pathogenic mechanisms during the occurrence and development of allergic asthma. Moreover, we summarize the current clinical intervention strategies for childhood allergic asthma, aiming to provide new insights for the treatment of this disease.

Keywords: IL-33; ST2; allergy; asthma; children.

Full text links

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Cite

20

Eur J Intern Med

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. 2026 Aug 8:107114.

doi: 10.1016/j.ejim.2026.107114. Online ahead of print.

Comparable 1-year effectiveness of tezepelumab and dupilumab after anti-IL-5/IL-5Rα biologic failure in severe asthma

Po-Cheng Shih [1], Shih-Pin Chen [2], James Cheng-Chung Wei [3]

Affiliations Expand

- **PMID: 42570933**

- **DOI: 10.1016/j.ejim.2026.107114**

No abstract available

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 typesExpand

Full text links

Proceed to details

Cite

21

Am J Respir Crit Care Med

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. 2026 Aug 8:aamag413.

doi: 10.1093/ajrccm/aamag413. Online ahead of print.

The Renaissance of Bronchiectasis

Miguel Angel Martinez-Garcia[1], Anne B Chang[2 3], Sanjay H Chotirmall[4 5], Gregory Tino[6]

Affiliations Expand

- PMID: 42569927

- DOI: 10.1093/ajrccm/aamag413

Free article

Abstract

Bronchiectasis now has an expanding landscape with a research growth rate exceeding that of asthma and COPD (9). We have summarized the top ten major shifts in domains of this landscape. In addition to the gaps mentioned above, further growth also needs to focus on prevention and ensure that consumers and underserved populations are included to strengthen equity (including in medication and RCT access), enhance relevance, and translate advances into meaningful improvements in care and outcomes for both children and adults with bronchiectasis.

Keywords: Bronchiectasis; adults; children; history.

Full text links

Proceed to details

Cite

22

Review

Clin Sci (Lond)

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. 2026 Aug 12;140(8):1675-1694.

doi: 10.1042/CS20260727.

Multifaceted roles of Isthmin-1 in health and disease: mechanism and therapeutic intervention

Yuting Wei[1 2 3 4 5], Wenqi Wu[1 2 3 4 5], Yanli Hou[1 2 3 4], Yikun Zhang[1 2], Ke Zhao[1 2 3 4], Wenyu Ding[1 2 3 4]

Affiliations Expand

- PMID: 42460880

- DOI: 10.1042/CS20260727

Abstract

Isthmin-1 (ISM1) is a secreted protein with multiple functions, containing a thrombospondin type 1 repeat domain and an AMOP domain. The initial studies mainly involved growth and development, metabolism, and tumor invasion. Numerous studies have demonstrated that this molecule is expressed in multiple tissues and organs. As a newly defined adipokine, it plays an essential role in various pathophysiological processes including apoptosis, angiogenesis, immune inflammation, renal function, cardiopulmonary function, aging, etc., through endocrine or autocrine pathways. ISM1 can promote glucose uptake, inhibit hepatic steatosis, and stimulate protein synthesis. Moreover, ISM1 plays an important role in the occurrence and development of cancer by regulating apoptosis, angiogenesis and immune inflammation. In addition, ISM1 is associated with acute lung injury, chronic obstructive pulmonary disease and allergic asthma. Although functional studies of ISM1 have been initiated, the biological functions of ISM1 remain largely unknown. In the present review, we summarize relevant research results in recent years and describe the key features of ISM1 biological functions. We explore the potential application of ISM1 in related diseases, aiming to provide a theoretical basis for the prevention and treatment of various diseases.

Keywords: Cancer; Cardiopulmonary function; Development and aging; Glycolipid metabolism; Isthmin-1.

. 2026 Aug 13:88:128770.

doi: 10.1016/j.vaccine.2026.128770. Epub 2026 Jun 25.

Public health impact and cost-effectiveness of adjuvanted RSVPreF3 vaccination among US adults aged 18-49 years at increased risk for severe RSV disease

David Singer[1], Elizabeth M La[2], Coline Dubois de Gennes[3], Jonathan Graham[4], Mei Grace[4], Eliana Biundo[5], Frederik Verelst[5]

Affiliations Expand

- PMID: 42349134

- DOI: 10.1016/j.vaccine.2026.128770

Free article

Abstract

Background: Adults with certain medical conditions (e.g., chronic pulmonary or cardiovascular disease, weakened immune systems) are at increased risk for severe respiratory syncytial virus (RSV) disease, which can have substantial clinical and economic burden. This study evaluated the public health impact and cost-effectiveness of adjuvanted RSVPreF3 vaccination among United States (US) adults aged 18-49 years at increased risk for severe RSV disease.

Methods: A static, multicohort Markov model simulated adjuvanted RSVPreF3 vaccination versus no vaccination over 5 years, assuming the same uptake as influenza vaccines. The base-case population included adults aged 18-49 years with ≥1 of the following risk factors for severe RSV disease: asthma, coronary artery disease, heart failure, chronic kidney disease, diabetes, and/or severe obesity. Model inputs were informed by existing literature. The base-case analysis estimated incremental RSV cases, RSV-related healthcare resource use and deaths, discounted quality-adjusted life years (QALYs) lost, and incremental cost-effectiveness ratios (ICERs) from a societal perspective (direct and indirect costs). Sensitivity analyses assessed varying model inputs and parameter uncertainty, while scenario analyses estimated ICERs from a healthcare sector perspective (direct costs only) and among condition-specific subgroups.

Results: Overall, 7,957,333 of the total 24,260,162 increased-risk adults aged 18-49 years received adjuvanted RSVPreF3 vaccination, which was estimated to avoid 869,819 RSV cases over 5 years, including 303,924 RSV-related outpatient visits, 444 RSV-related deaths, and 20,540 QALY losses versus no vaccination. The corresponding ICER was $61,717 per QALY gained from the societal perspective. Scenario analyses estimated that adjuvanted RSVPreF3 vaccination was cost-saving or cost-effective among all condition-specific subgroups based on a hypothetical willingness-to-pay threshold of $150,000 per QALY gained. Results were robust across sensitivity analyses.

Conclusions: Model findings suggest considerable potential public health benefits and cost-effectiveness of adjuvanted RSVPreF3 vaccination among US adults aged 18-49 years at increased risk for severe RSV disease.

Keywords: Cost-effectiveness; Prevention; Public health; Respiratory syncytial virus; United States; Vaccination.

Conflict of interest statement

Declaration of competing interest David Singer, Coline Dubois de Gennes, Eliana Biundo, and Frederik Verelst are GSK employees and hold financial equities in GSK. Elizabeth M. La was employed by GSK at the time of this study and holds financial equities in GSK. Jonathan Graham and Mei Grace are employees of RTI Health Solutions, LLC, which received funding from GSK to conduct this study.

Supplementary info

MeSH terms, SubstancesExpand

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Cite

24

Editorial

Thorax

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. 2026 Aug 14;81(9):819-820.

doi: 10.1136/thorax-2026-225025.

Making sense of azithromycin resistance patterns: what have we learnt and what should we do?

Will Carroll[1], James Chapman[2], Francis J Gilchrist[3 4]

Affiliations Expand

- **PMID: 42161596**

- **DOI: 10.1136/thorax-2026-225025**

No abstract available

Keywords: Asthma; Bacterial Infection; Bronchopulmonary Dysplasia; Cystic Fibrosis; Primary ciliary dyskinesia.

Conflict of interest statement

Competing interests: None declared.

Supplementary info

Publication typesExpand

Full text links

Proceed to details

Cite

25

Environ Res

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. 2026 Aug 15;303(Pt 2):124771.

doi: 10.1016/j.envres.2026.124771. Epub 2026 May 16.

Lifetime urban exposure, socioeconomic position and respiratory health among adolescents

Alicia Guillien[1], Marieke Welten[2], Ines Amine[3], Parisa Montazeri[4], Bente Oftedal[5], Zeinab Tarhini[3], Jose Urquiza[4], Sandra Andrusaityte[6], Blandine de Lauzon-Guillain[7], Audrius Dėdelė[6], Berit Granum[5], Norun Hjertager Krog[5], Rosemary McEachan[8], Tiffany C Yang[8], Xavier Basagaña[4], Mark Nieuwenhuijsen[4], Remy Slama[9], Martine Vrijheid[4], Liesbeth Duijts[10], Valérie Siroux[3]

Affiliations Expand

- PMID: 42144213

- DOI: 10.1016/j.envres.2026.124771

Free article

Abstract

Introduction: Early-life exposure to urban environmental factors, including air pollution, greenness or climate-related factors, is suspected to be associated with respiratory health but evidence among adolescents is scarce. We estimated the association between early-life exposure to urban factors and respiratory health among adolescents and addressed whether the socioeconomic position (SEP) could modify these associations.

Methods: This study was based on 3731 mother-child pairs from the HELIX and Generation R cohorts with 29 exposures from 6 domains (air pollution, built environment, natural spaces, climate-related factors, road traffic, light and noise) assessed during pregnancy, early (1-6 years) and middle childhood (7-12 years). Ever-asthma, wheezing and lung function parameters were assessed in adolescents (13-18 years). Associations between urban exposure profiles, defined at each period separately, and respiratory health were estimated through regression models. Models were further stratified by SEP levels during pregnancy.

Results: At each period, 2 exposure profiles were identified: high (high exposure to air pollutants, built environment, road traffic, noise and light and reduced access to green/blue spaces) vs. low urbanicity. High urbanicity in each period was associated with a lower risk of asthma and wheezing. SEP did not modify these associations. High urbanicity profile was associated with higher forced vital capacity (FVC) and forced respiratory volume in 1 s (FEV1) in the HELIX population and with higher FVC among adolescents with higher SEP.

Conclusion: These findings reflect the complex, context-dependent nature of the urban exposome, where both beneficial and harmful components coexist and interact in shaping respiratory health trajectories.

Keywords: Adolescents; Asthma; Clusters; Lung function; SEP; Urban environment.

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

MeSH terms, SubstancesExpand

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Cite

26

Thorax

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. 2026 Aug 14;81(9):836-837.

doi: 10.1136/thorax-2025-224234.

Never say die: making a death from asthma a never event

Dominick Shaw[1], Katie Pink[2], P Jane McDowell[3 4], Tom Fardon[5]

Affiliations Expand

- **PMID: 42103471**
- **DOI: 10.1136/thorax-2025-224234**

No abstract available

Keywords: Asthma; Asthma Epidemiology; Asthma in primary care; Paediatric asthma.

Conflict of interest statement

Competing interests: None declared.

Full text links

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Cite

27

Editorial

Thorax

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. 2026 Aug 14;81(9):834-835.

doi: 10.1136/thorax-2026-224743.

Global asthma and pest control: bugs and WASPs

Peer Ameen Shah[1], Sarah Diver[1], Chris E Brightling[2]

Affiliations Expand

- **PMID: 41775625**

- **DOI: 10.1136/thorax-2026-224743**

No abstract available

Keywords: Asthma; Microbiota.

Conflict of interest statement

Competing interests: CEB has received grants and consultancy paid to his Institution from Areteia, AstraZeneca, Chiesi, Genentech, GSK, Regeneron Pharmaceuticals, Roche and Sanofi.

Supplementary info

Publication typesExpand

Full text links

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Cite

28

Thorax

. 2026 Aug 14;81(9):845-852.

doi: 10.1136/thorax-2024-222710.

Impact of air pollution on lung function in cystic fibrosis over a decade in London: a UK CF Registry study

Muhammad Saleem Khan[1,2], Benjamin Barratt[2,3,4], Bethan Davies[1,2], Nicholas J Simmonds[5,6], Frédéric B Piel[7,2,3]

Affiliations Expand

- PMID: 41644139

- DOI: 10.1136/thorax-2024-222710

Free article

Abstract

Objective: Despite extensive research on the detrimental effects of air pollution on respiratory diseases like asthma and chronic obstructive pulmonary disease, the impact on people with cystic fibrosis (CF) remains understudied. Our study aimed to quantify the association between air pollution exposure and lung function decline in people with CF in London, UK.

Methods: Using 10 years (2008-2017) of UK Cystic Fibrosis Registry data, we conducted a longitudinal cohort study to evaluate the association between air pollution and the rate of decline in percent predicted forced expiratory volume in 1 second (ppFEV$_1$) among people with CF. Residential postcode exposure was based on high-resolution models of particulate matter with a diameter of less than 2.5 µm ($PM_{2.5}$) and nitrogen dioxide (NO_2) from the London Air Pollution Toolkit. We estimated the temporal decline in ppFEV$_1$ in high, medium and low exposure subgroups based on air pollutant concentration tertiles using linear mixed models with random intercepts.

Results: We used 3333 ppFEV$_1$ measurements of 393 people with CF (122 children, 271 adults). Over 40% of these people with CF lived in postcodes falling into the most deprived national quintile. For $PM_{2.5}$, the adjusted mean ppFEV$_1$ declined by 13.3% (95% CI -24.1% to -4.0%) over the study period in the high-exposure tertile compared with 8.5% (95% CI -11.7% to -6.4%) in the low-exposure tertile. Differences between the exposure groups were less consistent for NO_2. Children and people with CF with severe genotypes seemed particularly vulnerable.

Conclusions: This study provides novel evidence of the detrimental impact of air pollution on lung function in people with CF. Our findings highlight the importance of addressing air pollution as a modifiable risk factor to improve long-term outcomes of people with CF, and the need for national studies of the impact of environmental factors on CF in the UK.

Keywords: Cystic Fibrosis.

Conflict of interest statement

Competing interests: NJS has received consultancy fees for advisory boards from Vertex, Chiesi, Gilead, Roche and Menarini. He has also received speaker fees from Vertex, Chiesi and Gilead and has received support for attending meetings from Chiesi, Vertex and Pari. FBP has received funding for PhD studentships to the institution. The other authors have no competing interests to declare.

Supplementary info

MeSH terms, SubstancesExpand

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

1

Review

Clin Otolaryngol

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. 2026 Aug 14.

doi: 10.1111/coa.70159. Online ahead of print.

Comparative Efficacy and Safety of Turbinate Surgery for Chronic Rhinitis: A Systematic Review and Network Meta-Analysis

Do Hyun Kim[1], David W Jang[2], Se Hwan Hwang[3]

Affiliations Expand

- **PMID: 42601322**

- **DOI: 10.1111/coa.70159**

Abstract

Objectives: To evaluate the treatment outcomes of various turbinate surgeries in patients with chronic rhinitis.

Design and setting: A systematic review and meta-analysis.

Main outcome measures: A systematic search was conducted using six databases. Treatment conditions included six surgical interventions-coblator-assisted turbinoplasty (CAT), laser ablation, microdebrider-assisted turbinoplasty (MAT), radiofrequency tissue volume reduction (RFVTR), submucosal diathermy (SMD) and partial inferior turbinectomy (PIT)-and a reference intervention (submucosal resection). Outcomes included symptom scores, turbinate size, operative time and surgery-related adverse effects such as atrophic changes, crusting, nasal

dryness, mucosal tearing, revision rate and postoperative bleeding. Both pairwise and network meta-analyses were performed.

Results: MAT was associated with better outcomes across most parameters but showed a higher risk of mucosal tearing. SMD was associated with lower effectiveness in alleviating nasal obstruction at 6-12 months and laser ablation was associated with reduced effectiveness in decreasing turbinate size. RFVTR exhibited the shortest operative time and was associated with advantages in minimising nasal dryness and preserving the mucosa. Regarding adverse effects, laser ablation was associated with an increased risk of atrophic rhinitis, PIT with a higher incidence of crusting and dryness and SMD with a greater likelihood of requiring revision surgery.

Conclusion: MAT was associated with relatively favourable outcomes across most parameters; however, it also showed a higher risk of mucosal tearing. RFVTR was associated with advantages in minimising nasal dryness and preserving mucosal integrity. Both SMD and laser ablation were associated with comparatively limited efficacy and relatively higher rates of adverse effects.

Keywords: health care; network meta-analysis; outcome assessment; rhinitis; systematic review; turbinates.

- 73 references

Supplementary info

Publication typesExpand

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Cite

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Am J Rhinol Allergy

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. 2026 Aug 13:19458924261478358.

doi: 10.1177/19458924261478358. Online ahead of print.

Radiofrequency Ablation of the Intraturbinate Posterior Nasal Nerve Versus Medical Treatment for Chronic Rhinitis

Yi-Li Hwang[1], Jyun-Yi Liao[2], Han-Lo Teng[2,3], Ting-Yu Shih[2], Chien-Yu Huang[2,3,4]

Affiliations Expand

- PMID: 42595375

- DOI: 10.1177/19458924261478358

Abstract

BackgroundMedical treatment has been the mainstay of chronic rhinitis management. Meanwhile, innovative minimally invasive nasal surgery has shown promising results. The therapeutic outcomes of these surgical interventions compared with medical treatment in chronic rhinitis have not been discussed previously.ObjectiveThis study aimed to evaluate the efficacy of radiofrequency ablation of the inferior turbinate of the intraturbinate segment of the posterior nasal nerve (RAPN) in comparison with intranasal corticosteroid spray (INCS) plus oral antihistamines for the treatment of chronic rhinitis.MethodsA retrospective cohort study was conducted on patients with chronic rhinitis who had an inadequate response to medication. Inclusion criteria included a 24-h Reflective Total Nasal Symptom Score (rTNSS) ≥4 and a rhinorrhea score ≥1. Patients with prior nasal surgeries, caudal septal deviation, or acute/chronic rhinosinusitis were excluded. The primary endpoint was the change in 24-h rTNSS and Nasal Obstruction Symptom Evaluation (NOSE) scores at the 3-month follow-up.ResultsA total of 64 patients were included: 44 received RAPN, and 20 received INCS. Baseline rTNSS was 7.3 ± 2.1 for RAPN and 6.9 ± 2.3 for INCS (p = .497). Both groups showed significant improvement in rTNSS and NOSE scores at 1 and 3 months (p < .001). However, the RAPN group demonstrated significantly greater improvement than the INCS group at 1 to 3 months of follow-up (p = .001). Subscore analysis revealed that rhinorrhea (at 1 and 3 months) and sneezing (at 1 month) did not differ significantly between groups. One case of postoperative anterior epistaxis was noted in the RAPN group.ConclusionsBoth INCS and RAPN are highly effective in alleviating chronic rhinitis symptoms. Although RAPN does not establish definitive superiority over medical therapy across all neurogenic domains, it provides comparable, sustained symptom control with the distinct advantage of drug-free maintenance, offering a valuable therapeutic alternative.

Keywords: antihistamines; chronic rhinitis; corticosteroid; inferior turbinate; nasal obstruction; nasal spray; nasal surgeries; radiofrequency ablation; rhinorrhea; sneezing.

3

Review

Int J Pediatr Otorhinolaryngol

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. 2026 Aug 10:208:112973.

doi: 10.1016/j.ijporl.2026.112973. Online ahead of print.

Efficacy and safety of nasal saline irrigation for allergic rhinitis in children and adolescents: A systematic review and meta-analysis with GRADE assessment

Safya E Esmaeel[1], Reem Ibrahim S Alanazi[2], Osama Omar A Albladi[3], Rakan Faleh H Alharbi[4], Turki Abdullah S Alwasil[5], Daniya Sulaiman A Alanazi[6], Maisa Hassan B Almazyad[7], Abdullah Bader F Almutairi[8], Deem Saud K Alanazi[9], Baraah Abu Alsel[10], Manal S Fawzy[11], Eslam K Fahmy[12], Yehia Nabil[13]

Affiliations Expand

- PMID: 42579992

- DOI: 10.1016/j.ijporl.2026.112973

Abstract

Purpose: To critically evaluate and synthesize evidence from controlled trials regarding the efficacy and safety of nasal saline irrigation (NSI), utilizing both isotonic and hypertonic solutions, for the treatment of allergic rhinitis (AR) exclusively in children and adolescents aged 18 years or younger.

Methods: A systematic review and meta-analysis was conducted in accordance with PRISMA guidelines. A comprehensive search of PubMed/MEDLINE, Embase, Cochrane CENTRAL, Scopus, and Web of Science was performed for studies published up to May 2025. Eligibility criteria included randomized and non-randomized controlled trials comparing NSI (isotonic 0.9% or hypertonic >0.9%) against standard pharmacological care or no intervention in pediatric populations with physician-confirmed AR. Primary outcomes assessed were changes in nasal symptom scores, rescue antihistamine use, and disease control scores, with the certainty of evidence evaluated using the GRADE approach.

Results: Seven studies involving a total of 462 participants met the inclusion criteria. The pooled analysis demonstrated that NSI resulted in a large and statistically significant reduction in nasal symptom scores compared with controls (Standardized Mean Difference [SMD] -1.29; 95% CI -1.98 to -0.60), supported by low-certainty evidence. Furthermore, NSI was associated with a significant decrease in rescue antihistamine use (SMD -1.38; 95% CI -2.50 to -0.26; very low certainty). Although a trend toward improved disease control was observed (SMD 0.53), it did not reach statistical significance (95% CI -0.03 to 1.08), and the evidence was graded as very low certainty. Adverse events were minor (e.g., nasal irritation) and infrequent, with no serious safety concerns reported.

Conclusion: Nasal saline irrigation is an effective and safe intervention for children and adolescents with allergic rhinitis, offering clinically meaningful improvements in nasal symptoms and a significant medication-sparing effect. NSI can reasonably be considered as an adjunctive therapy alongside standard pharmacological care, with the choice of saline tonicity potentially tailored to the predominant symptom phenotype, although the predominance of high risk-of-bias evidence warrants confirmation in more rigorous trials.

Keywords: Allergic rhinitis; Children; Hypertonic saline; Isotonic saline; Nasal saline irrigation.

Conflict of interest statement

Declaration of competing interests 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 typesExpand

Full text links

chronic cough

- 1
- Case Rep Psychiatry
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- . 2026 Aug 13:2026:1043995.
- doi: 10.1155/crps/1043995. eCollection 2026.
- Near Total Resolution of Severe Refractory Chronic Cough With Low-Dose Sublingual Buprenorphine: Case Report
- David W Streem[1], Jessica Benovic[1], Akhil Anand[1]
- Affiliations Expand
- PMID: 42598287
-
- PMCID: PMC13470611
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- DOI: 10.1155/crps/1043995
- Abstract

- Refractory or unexplained chronic cough (RUCC) is a cough lasting more than 8 weeks that persists despite guidelines-based evaluation and treatment, either because no cause is identified or because the cough continues after appropriate treatment of identified conditions. It can significantly impair functioning, sleep, and quality of life. Guideline-supported options remain limited. We report on a case of RUCC that was very effectively treated with low-dose sublingual buprenorphine. This partial μ-opioid agonist can offer greater safety and lower misuse liability compared to full opioid agonists or tramadol. Further study of this treatment option is warranted.

- Keywords: buprenorphine; case report; chronic cough; quality of life.

- Conflict of interest statement
- The authors declare no conflicts of interest.

· 8 references

· Full text links

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· Cite

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· Case Reports

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· Cureus

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· . 2026 Aug 10;18(8):e114283.

· doi: 10.7759/cureus.114283. eCollection 2026 Aug.

· Chronic Cough With Reduced Diffusing Capacity and Preserved-Ratio Impaired Spirometry in a Young Never-Smoker With Systemic Lupus Erythematosus: A Diagnostic Pitfall

· Nivedita Singh[1,2], Divya Makkar[3], Govind Kumar[4], Vachan K Vanjarapu[5], Soujanya Sodavarapu[2]

· Affiliations Expand

· PMID: 42578089

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· PMCID: PMC13456693

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· DOI: 10.7759/cureus.114283

· Abstract

· Chronic cough in patients with systemic lupus erythematosus can be difficult to evaluate, especially when initial testing is unrevealing. We report the case of a 33-year-old woman with long-standing systemic lupus erythematosus, biopsy-proven lupus nephritis, prior extrapulmonary pericardial tuberculosis, and no active or passive smoking exposure who developed a persistent dry cough for six months. She was initially treated for gastroesophageal reflux disease with pantoprazole, without meaningful relief. Chest radiography and swallowing assessment were normal. Initial pulmonary function testing in July 2023 was formally interpreted as moderate obstructive airways disease, mild parenchymal restriction, and a moderately severe diffusion defect, without a significant bronchodilator response. High-resolution volumetric computed tomography of the chest with dynamic airway assessment showed no emphysema, bronchiectasis, interstitial lung disease, tracheomalacia, or acute cardiopulmonary process. Her cough improved substantially after inhaled therapy with albuterol and

budesonide/glycopyrrolate/formoterol fumarate. Repeat pulmonary function testing in October 2023 showed improved spirometric values, but the forced expiratory volume in one second/forced vital capacity ratio remained preserved, and hemoglobin-adjusted diffusing capacity remained reduced at 64% predicted. This case highlights a diagnostic pitfall: inhaler-responsive chronic cough and a pulmonary function report suggesting obstruction should be evaluated together with post-bronchodilator spirometry, diffusing capacity, imaging, and exposure history. In systemic lupus erythematosus, a persistent cough may be associated with clinically relevant pulmonary function abnormalities even when chest imaging is unrevealing.

· Keywords: chronic cough; diagnostic pitfall; lupus nephritis; never-smoker; preserved-ratio impaired spirometry; reduced diffusing capacity; small airway disease; systemic lupus erythematosus.

· Conflict of interest statement

· Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. 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.

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· . 2026 Aug 10;12(4):01690-2025.

· doi: 10.1183/23120541.01690-2025. eCollection 2026 Jul.

· COMSA-MEWS: a simple quantitative algorithm for determining response to biologics in severe asthma, tested in a real-world mepolizumab study

· Valentyna Yasinska[1 2 3], Johan Kolmert[4], Maria Sparreman Mikus[1 2], Lars I Andersson[1 2], Ann-Sofie Lantz[1], Eva Wallen-Nielsén[1], Apostolos Bossios[3 5 6], Nikolaos Lazarinis[3 5 6], Oksana Tenselius[1 2 3], Niclas Rydell[7], Craig E Wheelock[2 4], Peter H Howarth[8 9], Chris Brightling[10], Andrei Malinovschi[11], Christer Janson[12], Jenny Mjösberg[1 2], Barbro Dahlén[1], Anna James[13], Sven-Erik Dahlén[1 2 4]

· Affiliations Expand

· PMID: 42577718

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· PMCID: PMC13454858

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· DOI: 10.1183/23120541.01690-2025

· Abstract

· Background: A 5-domain composite Core Outcome Measures set for Severe Asthma (COMSA) has been introduced for evaluation of treatment response.

· Methods: The COMSA evaluation strategy was tested in a real-world study of 78 patients with severe asthma with blood eosinophilia taking mepolizumab. Exacerbations, oral corticosteroid (OCS) use, forced expiratory volume in 1 s, Asthma Quality of Life Questionnaire score and Asthma Control Questionnaire-5 results were determined before treatment and 4, 12, 24 and 36 months thereafter. Responses were quantified as the sum of changes in domains using both the relative CONFiRM (CompOsite iNdexes For Response in asthMa) scale, where exacerbations and OCS use are given most weight, and Modified Equal Weight Score (MEWS), where each domain gives equal weight. Both scales use identical cut-offs for degree of change within domains.

· Results: After 1 year, the MEWS scoring system classified 13% as non-responders, 28% as sufficient-responders, 40% as substantial-responders and 19% as super-responders. Using CONFiRM, the corresponding group stratification was 22%, 22%, 33% and 23%, respectively. Group assignments remained unchanged at 24 and 36 months, for 66% of patients in COMSA-MEWS and 68% in COMFiRM. Baseline exhaled nitric oxide was highest among the super-responders, whereas other type 2 markers were similar across the groups.

· Conclusion: In this first real-world application, the COMSA stratification assigned patients into distinct, graded responder groups that may be used in clinical research and management of severe asthma. Although patient-reported symptoms are given greater weight in COMSA-MEWS, the two algorithms performed similarly.

· Conflict of interest statement

· Conflict of interest: V. Yasinska declares advisory boards for AstraZeneca (AZ), GlaxoSmithKline (GSK) and Sanofi with payment to her employer; and honoraria for lectures from AZ and GSK, and grant from AZ, all payment outside the submitted work. J. Kolmert declares personal fees from Lipum AB. A. Bossios declares a grant from AZ was paid to their institution outside the submitted work; honoraria and lecture fees from Chiesi, GSK and AZ, paid to their institution, outside the submitted work; and is Head of Assembly 5 (Airway Diseases, Asthma, COPD and Chronic Cough) of the European Respiratory Society, co-chair of the Nordic Severe

Asthma Network, a member of the steering committee of SHARP (ERS severe asthma Clinical Research Collaboration) and a member of the steering committee of the Swedish National Airway Register. N. Lazarinis declares honoraria from AZ, Chiesi, Sanofi and GSK, and an advisory board for AZ. P.H. Howarth is employed by GSK. C. Brightling declares support from NIHR BRC and IMI-3TR; and grants and consultancy fees from 4D Pharma, Areteia, AZ, Chiesi, Genentech, GSK, Mologic, Novartis, Regeneron Pharmaceuticals, Roche and Sanofi. C. Janson declares honoraria for educational activities and lecture from ALK, AZ, Boehringer Ingelheim, Chiesi, GSK, Novartis, Orion, Sanofi, Stallergenes and TEVA. J. Mjösberg declares honoraria for lectures from AstraZeneca, Chiesi, Novartis and Sanofi outside the submitted work. B. Dahlén declares personal fees from the Swedish Medical Products Agency and Affibody; and honoraria for lectures and personal fees from AZ, GSK and Sanofi. S-E. Dahlén declares Swedish academic grants (e.g. MRC, Heart–Lung Foundation, the Swedish Strategic Foundation, the Stockholm County Research Funds and Karolinska Institutet); grants from AZ, GSK, Regeneron and Sanofi paid to his institution; consulting fees from Affibody, AZ, GSK, Regeneron and Sanofi; and lecture honoraria from GSK, AZ and Sanofi. The other co-authors declare no conflict of interest for this article.

· 27 references

· 4 figures

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

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Immunol Cell Biol

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. 2026 Aug 13.

doi: 10.1111/imcb.70156. Online ahead of print.

Carbocisteine Reduces Airway Mucus Obstruction and Alters Inflammatory Cell Populations in a Model of Muco-Obstructive Lung Disease

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Affiliations Expand

- PMID: 42596503

- DOI: 10.1111/imcb.70156

Abstract

Muco-obstructive lung diseases, including chronic obstructive pulmonary disease (COPD), cystic fibrosis (CF), and bronchiectasis, are characterized by excessive mucus production, airway surface dehydration, impaired mucociliary clearance, and progressive lung function decline. As the efficacy of current therapies often declines with muco-obstructive disease progression, contributing significantly to morbidity and mortality, there is a need for improved treatments that address underlying defects in mucus homeostasis and airway physiology. In this study, we evaluate the effects of carbocisteine, a mucoactive therapeutic, in the βENaC-transgenic (βENaC-Tg) model of muco-obstructive lung disease. Short-term carbocisteine administration significantly reduced airway mucus obstruction, potentially through decreased concentrations of Muc5ac and Muc5b. Notably, carbocisteine treatment modulated key inducers of mucus production, such as interleukin (IL)-13 and the upstream promoter cytokine IL-17, suggesting broader effects on mucoregulatory pathways. Carbocisteine administration was observed to alter mononuclear cell populations, impacting specific inflammatory subsets of CD11b alveolar macrophages and Ly6c monocytes, indicating immunomodulatory effects, either directly or secondary to improved mucus clearance. However, despite changes in immune cell populations, short-term administration failed to mitigate lung damage and inflammation associated with established muco-obstructive lung disease. These findings demonstrate the potent mucoactive effect of carbocisteine in established muco-obstructive lung disease, through a broader mechanism of action than previously understood, with the potential to modulate inflammatory responses for preventive or long-term treatment strategies.

Keywords: airway inflammation; carbocisteine; muco-obstructive lung disease; mucus clearance.

- **47 references**

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Cell Rep Med

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. 2026 Aug 13:102995.

doi: 10.1016/j.xcrm.2026.102995. Online ahead of print.

Symptoms and treatment response to florensocatib and inhaled tobramycin in bronchiectasis: Post hoc analysis of two randomized trials

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Affiliations Expand

- PMID: 42594878

- DOI: 10.1016/j.xcrm.2026.102995

Free article

Abstract

Inhaled antibiotics and DPP-1 inhibitors improve clinical outcomes in bronchiectasis, but whether baseline symptom burden predicts differential treatment responses remains unclear. In this post hoc analysis of two multicenter randomized trials (SAVE-BE, n = 224; TORNASOL, n = 357), we evaluate the association between baseline Quality of Life-Bronchiectasis Respiratory Symptom Scale (QoL-B-RSS) and treatment effects of florensocatib and inhaled tobramycin. In SAVE-BE, florensocatib reduces exacerbation rates versus placebo (relative risk [RR], 0.47; 95% confidence interval [CI], 0.33-0.67; p < 0.0001), with RRs of 0.53 and 0.40 observed in patients with high and low symptom burdens, respectively, but no significant symptomatic improvement. In TORNASOL, tobramycin produces clinically meaningful QoL-B-RSS improvements (exceeding the 8-point cutoff in high-symptom patients) and ameliorates bronchitic symptoms, with greater benefits in those with higher baseline symptom burden. These hypothesis-generating findings suggest that baseline symptom burden may identify differential responses to anti-inflammatory versus anti-infective therapies in bronchiectasis and support its potential as a simple, practical stratification tool to guide personalized treatment.

Keywords: DPP-1 inhibitor; bronchiectasis; exacerbations; inhaled tobramycin; symptoms; treatment response.

Conflict of interest statement

Declaration of interests The authors have no potential conflicts of interest to disclose.

. 2026 Aug 10;18(8):e114283.

doi: 10.7759/cureus.114283. eCollection 2026 Aug.

Chronic Cough With Reduced Diffusing Capacity and Preserved-Ratio Impaired Spirometry in a Young Never-Smoker With Systemic Lupus Erythematosus: A Diagnostic Pitfall

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- PMID: 42578089
- PMCID: PMC13456693
- DOI: 10.7759/cureus.114283

Abstract

Chronic cough in patients with systemic lupus erythematosus can be difficult to evaluate, especially when initial testing is unrevealing. We report the case of a 33-year-old woman with long-standing systemic lupus erythematosus, biopsy-proven lupus nephritis, prior extrapulmonary pericardial tuberculosis, and no active or passive smoking exposure who developed a persistent dry cough for six months. She was initially treated for gastroesophageal reflux disease with pantoprazole, without meaningful relief. Chest radiography and swallowing assessment were normal. Initial pulmonary function testing in July 2023 was formally interpreted as moderate obstructive airways disease, mild parenchymal restriction, and a moderately severe diffusion defect, without a significant bronchodilator response. High-resolution volumetric computed tomography of the chest with dynamic airway assessment showed no emphysema, bronchiectasis, interstitial lung disease, tracheomalacia, or acute cardiopulmonary process. Her cough improved substantially after inhaled therapy with albuterol and budesonide/glycopyrrolate/formoterol fumarate. Repeat pulmonary function testing in October 2023 showed improved spirometric values, but the forced expiratory volume in one second/forced vital capacity ratio remained preserved, and hemoglobin-adjusted diffusing capacity remained reduced at 64% predicted. This case highlights a diagnostic pitfall: inhaler-responsive chronic cough and a pulmonary function report suggesting obstruction should be evaluated together with post-bronchodilator spirometry, diffusing capacity, imaging, and exposure history. In systemic lupus erythematosus, a persistent cough may be associated with clinically relevant pulmonary function abnormalities even when chest imaging is unrevealing.

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Conflict of interest statement

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- **15 references**
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. 2026 Aug 11:107132.

doi: 10.1016/j.ejim.2026.107132. Online ahead of print.

A flower blooming in the Lung

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Affiliations Expand

- **PMID: 42575781**
- **DOI: 10.1016/j.ejim.2026.107132**

No abstract available

Keywords: Allergic bronchopulmonary aspergillosis; Bronchiectasis; Eosinophilia; Finger-in-glove sign; High-attenuation mucus.

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.

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Am J Respir Crit Care Med

. 2026 Aug 8:aamag413.

doi: 10.1093/ajrccm/aamag413. Online ahead of print.

The Renaissance of Bronchiectasis

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Affiliations Expand

- PMID: 42569927

- DOI: 10.1093/ajrccm/aamag413

Free article

Abstract

Bronchiectasis now has an expanding landscape with a research growth rate exceeding that of asthma and COPD (9). We have summarized the top ten major shifts in domains of this landscape. In addition to the gaps mentioned above, further growth also needs to focus on prevention and ensure that consumers and underserved populations are included to strengthen equity (including in medication and RCT access), enhance relevance, and translate advances into meaningful improvements in care and outcomes for both children and adults with bronchiectasis.

Keywords: Bronchiectasis; adults; children; history.