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

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Editorial

Eur Respir J

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. 2024 Feb 1;63(2):2302238.

doi: 10.1183/13993003.02238-2023. Print 2024 Feb.

"Every beet you take": lowering systolic blood pressure and improving vascular function/exercise capacity via the dietary nitrate-nitrite-NO pathway in patients with COPD

[Andrew J Webb](#)^{1,2}

Affiliations expand

- PMID: 38302179

- DOI: [10.1183/13993003.02238-2023](https://doi.org/10.1183/13993003.02238-2023)

No abstract available

Conflict of interest statement

Conflict of interest: A.J. Webb holds shares in HeartBeet Ltd, which receives a royalty from James White Drinks Ltd who manufacture the active nitrate-containing beetroot juice and placebo nitrate-depleted juice used in the study discussed.

Comment on

- [Oral nitrate supplementation improves cardiovascular risk markers in COPD: ON-BC, a randomised controlled trial.](#)
Alasmari AM, Alsulayyim AS, Alghamdi SM, Philip KEJ, Buttery SC, Banya WAS, Polkey MI, Armstrong PC, Rickman MJ, Warner TD, Mitchell JA, Hopkinson NS. *Eur Respir J.* 2024 Feb 1;63(2):2202353. doi: 10.1183/13993003.02353-2022. Print 2024 Feb. PMID: 38123239

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Editorial

Respirology

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. 2024 Feb 1.

doi: 10.1111/resp.14665. Online ahead of print.

Breaking the spiral: How negative mood can fuel exertional breathlessness in people with chronic obstructive pulmonary disease

[Amy Pascoe](#)¹, [Natasha Smallwood](#)^{1,2}

Affiliations expand

- PMID: 38302100
- DOI: [10.1111/resp.14665](https://doi.org/10.1111/resp.14665)

No abstract available

Keywords: affect; chronic obstructive pulmonary disease; clinical respiratory medicine; dyspnoea; exercise and pulmonary rehabilitation; mood modulation; relaxation techniques.

- [12 references](#)

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[Review](#)

Chest



. 2024 Jan 30:S0012-3692(24)00041-2.

doi: 10.1016/j.chest.2024.01.030. Online ahead of print.

"How I do it": Home Non-Invasive Ventilation in COPD

[Marta Kaminska](#)¹, [Veronique Adam](#)², [Jeremy Orr](#)³

Affiliations expand

- PMID: 38301744
- DOI: [10.1016/j.chest.2024.01.030](https://doi.org/10.1016/j.chest.2024.01.030)

Abstract

There is increasing evidence that long-term NIV (LT-NIV) can improve outcomes in individuals with severe, hypercapnic COPD. Though the evidence remains unclear in some aspects, LT-NIV appears to be able to improve patient-related and physiological outcomes like dyspnea, FEV₁, PCO₂, and also reduce rehospitalizations and mortality. Efficacy is generally associated with reduction in PCO₂. To achieve this, an adequate interface (mask) is essential, as are appropriate ventilation settings that target the specific respiratory physiology of COPD. This will ensure comfort, synchrony and adherence that will result in physiologic improvements. This article briefly reviews the newest evidence and current guidelines on LT-NIV in severe COPD. It describes a true case who benefitted from the therapy. Finally, it provides strategies for initiating and optimizing this LT-NIV in COPD, discussing high-pressure NIV, optimization of triggering and control of inspiratory time. As demand increases, clinicians will need to be familiar with this therapy, to reap its benefits, as inadequately adjusted LT-NIV will not be tolerated or effective.

Keywords: Chronic Obstructive Pulmonary Disease; Chronic Respiratory Failure; Hypoventilation; Non-Invasive Ventilation.

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Am J Respir Crit Care Med

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. 2024 Feb 1.

doi: 10.1164/rccm.202309-1650CI. Online ahead of print.

Lung Disease and Social Justice – COPD as a Manifestation of Structural Violence

[Parris J Williams](#)¹, [Sara C Buttery](#)¹, [Anthony A Laverty](#)², [Nicholas S Hopkinson](#)^{3,4}

Affiliations expand

- PMID: 38300144
- DOI: [10.1164/rccm.202309-1650CI](https://doi.org/10.1164/rccm.202309-1650CI)

Abstract

Lung health, the development of lung disease, and how well a person with lung disease is able to live, all depend on a wide range of societal factors. These systemic factors that adversely affect people and cause injustice, can be thought of as "structural violence". To make the causal processes relating to COPD more apparent, and the responsibility to interrupt or alleviate them clearer, we have developed a taxonomy to describe this. It contains five domains: 1) Avoidable lung harms: (i) processes impacting on lung development (ii) processes which disadvantage lung health in particular groups across the

life course. 2)Diagnostic Delay: (i)healthcare factors (ii)norms and attitudes that mean that COPD is not diagnosed in a timely way, denying people with COPD effective treatment. 3)Inadequate COPD Care: ways in which the provision of care for people with COPD falls short of what is needed to ensure that they are able to enjoy the best possible health, considered as (i)healthcare resource allocation (ii)norms and attitudes influencing clinical practice. 4)Low status of COPD: ways both COPD as a condition and people with COPD are held in less regard and considered less of a priority than other comparable health problems. 5)Lack of Support: factors that make living with COPD more difficult than it should be (i)socioenvironmental factors (ii)factors that promote social isolation. This model has relevance for policymakers, healthcare professionals and the public as an educational resource, to change clinical practices and priorities and to stimulate advocacy and activism with the goal of the elimination of COPD.

Keywords: Advocacy; COPD; Social justice; Tobacco control; inequality.

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Ann Am Thorac Soc



. 2024 Feb 1.

doi: 10.1513/AnnalsATS.202306-544RL. Online ahead of print.

[Long-Term Dupilumab Efficacy on Severe Exacerbations and Lung Function in Patients With Type 2 Asthma](#)

[Alberto Papi](#)¹, [Mario Castro](#)², [William W Busse](#)³, [David Langton](#)^{4,5}, [Stephanie Korn](#)⁶, [Changming Xia](#)⁷, [Xavier Soler](#)⁷, [Nami Pandit-Abid](#)⁸, [Amr Radwan](#)⁷, [Juby A Jacob-Nara](#)⁸, [Paul J Rowe](#)⁸, [Yamo Deniz](#)⁷

Affiliations expand

- PMID: 38300119
- DOI: [10.1513/AnnalsATS.202306-544RL](https://doi.org/10.1513/AnnalsATS.202306-544RL)

No abstract available

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Cancer Invest

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. 2024 Feb 1:1-13.

doi: 10.1080/07357907.2024.2310574. Online ahead of print.

[Comorbidity in Small Cell Lung Cancer: Prognostic Impacts of Hypertension/Coronary Artery Disease, Diabetes Mellitus, and Chronic Obstructive Pulmonary Disease](#)

[Faruk Tas](#)¹, [Akin Ozturk](#)², [Kayhan Erturk](#)³

Affiliations expand

- PMID: 38299573

- DOI: [10.1080/07357907.2024.2310574](https://doi.org/10.1080/07357907.2024.2310574)

Abstract

Comorbidity, the most important components of which are hypertension/coronary artery disease (HTN/CAD), diabetes mellitus (DM), and chronic obstructive pulmonary disease (COPD), is frequently encountered in small cell lung cancer (SCLC) patients. We aimed to assess the possible impacts of these major comorbidities on the prognoses of SCLC patients. A total of 378 SCLC patients were analyzed retrospectively. We did not ascertain the effect of comorbidity on survival in SCLC patients in general; and similarly, the presence of HTN/CAD and COPD did not adversely affect the outcome. However, lower survival rates were observed in patients with SCLC coexisting with DM.

Keywords: Small cell lung cancer; chronic obstructive pulmonary disease; comorbidity; diabetes mellitus; hypertension/coronary artery disease; prognosis.

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[Review](#)

Worldviews Evid Based Nurs

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. 2024 Jan 31.

doi: 10.1111/wvn.12698. Online ahead of print.

The effect of virtual reality technology in exercise and lung functions of patients with chronic obstructive pulmonary disease: A systematic review and meta-analysis

Yaxin Liu¹, Qiufeng Du¹, Yunlan Jiang²

Affiliations expand

- PMID: 38297408
- DOI: [10.1111/wvn.12698](https://doi.org/10.1111/wvn.12698)

Abstract

Background: Chronic obstructive pulmonary disease (COPD) is a serious chronic disease worldwide, with significant negative impacts on the quality of life, family economic burden, and social healthcare burden of patients.

Aims: The aim of this study was to explore the effects of virtual reality technology on exercise function and lung function in COPD patients.

Methods: A meta-analysis of randomized controlled trials was utilized. PubMed, Embase, Cochrane Library, Web of Science, PsycINFO, CINAHL, Medline, Scopus, China National Knowledge Infrastructure (CNKI), Wanfang Database, Weipu Database (VIP), and Chinese Biomedical Database (CBM) were systematically searched. We included randomized controlled trials published from the establishment of the database to August 10, 2022, on virtual reality technology in COPD patients. Literature retrieval and screening was carried out independently by two reviewers to obtain literature that met our inclusion and exclusion criteria and to extract relevant data. Two reviewers assessed the risk of bias in the included literature. A meta-analysis was performed using Revman 5.4 Software.

Results: A total of 10 randomized controlled trials with 539 participants were included. The results showed that virtual reality technology significantly improved the lung function of COPD patients, such as forced expiratory volume (FEV₁; MD = 7.29, 95% CI [4.34, 10.24], $p < .01$) and forced expiratory volume/forced vital capacity (FEV₁/FVC; MD = 6.71, 95% CI [4.72, 8.71], $p < .01$). The combined intervention with different virtual reality technology had different effects on motor function. Compared with endurance training (ET) alone,

virtual reality technology combined with ET had no significant effect on the 6-minute walk test (6WMT) in COPD patients ($p > .05$). Compared with pulmonary rehabilitation (PR) alone, virtual reality technology combined with PR was more effective in increasing 6WMT in COPD patients (MD = 30.80, 95% CI [10.85, 50.74], $p < .01$).

Linking evidence to action: Virtual reality technology can help to improve lung function in COPD patients, and virtual reality combined with PR can improve exercise tolerance in COPD patients. However, due to the limited number of included studies, large-sample, multicenter, high-quality randomized controlled trial studies are needed to provide clear evidence.

Keywords: chronic obstructive pulmonary disease; meta-analysis; randomized controlled trial; systematic review; virtual reality.

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- [52 references](#)

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Infect Dis Ther

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. 2024 Jan 31.

doi: 10.1007/s40121-023-00912-z. Online ahead of print.

Epidemiology of Pertussis and Pertussis-Related Complications in Adults: A German Claims Data Analysis

[Bastian Surmann](#)¹, [Julian Witte](#)², [Manuel Batram](#)¹, [Carl Peter Criée](#)³, [Christiane Hermann](#)⁴, [Andreas Leischker](#)^{5,6}, [Jörg Schelling](#)⁷, [Mirko Steinmüller](#)⁸, [Klaus Wahle](#)⁹, [Alexander F Heiseke](#)¹⁰, [Pavo Marijic](#)¹⁰

Affiliations expand

- PMID: 38294623
- DOI: [10.1007/s40121-023-00912-z](https://doi.org/10.1007/s40121-023-00912-z)

Abstract

Introduction: Pertussis is a highly contagious respiratory infection. It affects people of all ages, yet evidence of the impact of pertussis in adults with underlying conditions (UCs) is scarce. This study investigated the incidence and complication rate of pertussis in adult patients with and without UC.

Methods: A retrospective analysis was conducted using routinely collected German claims data between 2015 and 2019. Patients with and without different pneumological, cardiovascular, endocrinological, musculoskeletal, and psychological UCs were matched for incidence estimation. Logistic regression models were used to estimate the risk of pertussis depending on the presence of UCs. Negative binomial models were used to assess complication rates in patients with pertussis and with and without UC.

Results: In total, 4383 patients were diagnosed with pertussis during the study period. Patients with any UC had an increased risk for pertussis compared to matched patients without UC (odds ratio [OR] 1.72; 95% confidence interval [CI] 1.60-1.84, $p < 0.0001$). Underlying asthma had the highest risk of pertussis (OR 2.70; 95% CI 2.50-2.91, $p < 0.0001$), followed by chronic obstructive pulmonary disease (OR 2.35; 95% CI 2.10-2.60, $p < 0.0001$) and depression (OR 2.08; 95% CI 1.95-2.22, $p < 0.0001$). Severe complications occurred in 10.8% of the pertussis cohort (13.4% with UC vs. 9.5% without UC). The UC-attributable effect on the risk of severe pertussis-related complications was significantly increased for any UC (incidence rate ratio [IRR] 1.29, 95% CI 1.19-1.39). The severe complication risk was also increased for patients aged 60+ (IRR 1.59, 95% CI 1.46-1.72).

Conclusion: This study shows that adults with certain UCs have an increased risk for pertussis and are more likely to have complications. These results provide further evidence that pertussis is a relevant and impactful infectious disease in adults with and without

certain UC, indicating that these patients need to be considered when developing vaccination recommendations to avoid pertussis and its associated complications. A graphical abstract is available with this article.

Keywords: Comorbidity; Incidence; Older adults; Pertussis; Real world evidence; Risk factor; Whooping cough.

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- [29 references](#)

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BMC Cancer

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. 2024 Jan 30;24(1):153.

doi: 10.1186/s12885-024-11902-w.

[Impact of chronic obstructive pulmonary disease on the efficacy and safety of neoadjuvant immune checkpoint inhibitors combined with chemotherapy for resectable non-small cell lung cancer: a retrospective cohort study](#)

[Weigang Dong](#)¹, [Yan Yin](#)¹, [Shengnan Yang](#)¹, [Bin Liu](#)¹, [Xi Chen](#)¹, [Lina Wang](#)¹, [Yue Su](#)¹, [Yan Jiang](#)¹, [Dongsheng Shi](#)¹, [Daqiang Sun](#)², [Jianwen Qin](#)³

Affiliations expand

- PMID: 38291354
- DOI: [10.1186/s12885-024-11902-w](https://doi.org/10.1186/s12885-024-11902-w)

Free article

Abstract

Background: Neoadjuvant immune checkpoint inhibitors(ICIs) combined with chemotherapy can improve non-small cell lung cancer(NSCLC) patients' pathological responses and show promising improvements in survival. Chronic obstructive pulmonary disease (COPD) is a systemic inflammatory disease, and its associated abnormal inflammatory response affects not only the immunotherapy efficacy but also immune-related adverse events. It remains unclear whether NSCLC patients with COPD can benefit from neoadjuvant ICIs combined with chemotherapy.

Methods: A retrospective observational clinical study was conducted on 105 consecutive NSCLC patients receiving neoadjuvant ICIs combined with chemotherapy at the Department of Thoracic Surgery of Tianjin Chest Hospital between April 2020 and April 2023.

Results: A total of 74 NSCLC patients were included in the study, including 30 patients with COPD and 44 patients without COPD. The percentage of patients with a pathological complete response (PCR) was higher in the COPD group than in the non-COPD group (43.3% vs. 20.5%, $P = 0.042$). Multivariate logistic regression analysis of factors associated with PCR showed that the adjusted odds ratio (OR) was statistically significant for presence of COPD (OR = 3.020, 95%CI: 1.042-8.757; $P = 0.042$). Major pathological response (66.7% vs. 50%, $P = 0.155$), R0 resection rate (96.7% vs.93.2%, $P = 0.642$), N2 lymph node downstaging(92.3% vs. 66.7%, $P = 0.182$) and objective response rate (70% vs. 63.6%, $P = 0.57$) were not significantly different between the groups. Progression-free survival(PFS) was not reached in the COPD group and 17 months (95%CI: 12.1-21.9) in the non-COPD group, with statistically significance ($\chi^2 = 6.247$, $P = 0.012$). Multivariate Cox's regression analysis showed that the adjusted hazard ratio (HRadj) was statistically significant for presence of COPD (HRadj = 0.321, 95%CI: 0.111-0.930; $P = 0.036$). The grade 3 and grade 4 adverse events in the COPD group were leukopenia (3.3%, 6.7%), neutropenia (3.3%, 6.7%), fatigue (6.7%, 0%), gastrointestinal reactions (3.3%, 0%), and hypothyroidism (3.3%, 0%). In the non-COPD group, the corresponding adverse events were leukopenia (6.8%, 6.8%), neutropenia (3.3%, 6.8%), fatigue (2.3%, 0%), gastrointestinal reactions (2.3%, 0%), and hypothyroidism (2.3%, 0%), respectively.

Conclusions: The present study indicates that the presence of COPD may improve PCR, prolong PFS, and have an acceptable safety profile in NSCLC patients receiving neoadjuvant ICIs combined with chemotherapy.

Keywords: COPD; Immunochemotherapy; Neoadjuvant; Non-small cell lung cancer.

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- [33 references](#)

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MeSH terms, Substances, Grants and funding expand

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Respir Care

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. 2024 Jan 30:respcare.11564.

doi: 10.4187/respcare.11564. Online ahead of print.

[A Taxonomy for Noninvasive Modes Provided by Portable Ventilators](#)

[Umur Hatipoğlu](#)¹, [Joseph S Lewarski](#)², [Robert L Chatburn](#)²

Affiliations expand

- PMID: 38290749

- DOI: [10.4187/respcare.11564](https://doi.org/10.4187/respcare.11564)

Abstract

The purpose of this article is to identify (by brand name) and then classify the modes available on contemporary portable ventilators used for noninvasive ventilation in the United States. We propose a formal taxonomy that identifies the modes by their control variable, breath sequence, and targeting scheme, therefore describing what the mode does. Use of this taxonomy should be helpful in finding modes with comparable functionality that cater to the specific goal of mechanical ventilation and effective ventilatory strategies for each disease state.

Keywords: COPD; chronic hypercapnic respiratory failure; home noninvasive ventilation.

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Prim Health Care Res Dev

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. 2024 Jan 30:25:e7.

doi: 10.1017/S1463423623000324.

[Feasibility of a home-designed respiratory rehabilitation program for chronic obstructive pulmonary disease](#)

[Nidhal Belloumi](#)^{1,2}, [Chaima Habouria](#)^{1,2}, [Imen Bachouch](#)^{1,2}, [Meriem Mersni](#)^{2,3}, [Fatma Chermiti](#)^{1,2}, [Soraya Fenniche](#)^{1,2}

Affiliations expand

- PMID: 38287510
- DOI: [10.1017/S1463423623000324](https://doi.org/10.1017/S1463423623000324)

Abstract

Background: According to international guidelines, respiratory rehabilitation (RR) for patients with chronic obstructive pulmonary disease (COPD) is a cornerstone of standard non-pharmacological treatment.

Aims: To evaluate feasibility of a home-designed RR program and analyze its medium-term impact on respiratory parameters and quality of life.

Methods: This was a prospective study involving 74 COPD patients enrolled in January 2019 and put on inhaled bronchodilator treatment associated with RR at home following a written protocol, for 16 weeks. The comparative statistical analysis highlights the difference before and after RR in terms of clinical and functional respiratory parameters as well as in terms of quality of life (assessed on the short form 36 (SF-36) questionnaire). The comparison involves RR-adherent patients versus non-adherent patients.

Results: Mean age was 66.7 ± 8.3 years with a median of 67 years. All patients were smokers, out of which 42 patients (57%) did not quit yet. Forty-one percent of patients were frequent exacerbators. The average COPD assessment test (CAT) score in our patients was 23. The average 6-minutes walk distance (MWD) was 304 m. The BODE index in our patients was 4.11 on average. The RR program was followed by 36 patients (48%). Thirty patients (40%) applied it at least twice a week. RR-adherent patients had an average CAT score decreasing from 23 to 14.5 ($P = 0.011$). Their average 6-MWD was 444.6 m by the end of the study, which would be 64.2% of the calculated theoretical value. The average FEV1 increase after RR was 283 mL. The majority (69%) of RR-adherent patients were ranked as quartile 1; BODE index ≤ 2 . The average scores of physical, psycho-social, and general dimensions assessed on the SF-36 questionnaire improved in RR-adherent patients.

Conclusions: RR is a key non-pharmacological treatment for COPD. Its interest originates from its multidisciplinary nature, hence its effectiveness in several respiratory parameters. Our study reflects the feasibility of home-designed protocols in the absence of contraindications. We highlight also the positive impact on quality of life after RR at home.

Keywords: BODE index; chronic obstructive lung disease; effort; respiratory rehabilitation.

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MeSH termsexpand

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EClinicalMedicine

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. 2024 Jan 5:68:102408.

doi: 10.1016/j.eclinm.2023.102408. eCollection 2024 Feb.

[Dysanapsis is differentially related to lung function trajectories with distinct structural and functional patterns in COPD and variable risk for adverse outcomes](#)

[James C Ross](#)¹, [Raul San José Estépar](#)¹, [Sam Ash](#)², [Carrie Pistenmaa](#)², [MeiLan Han](#)³, [Surya P Bhatt](#)⁴, [Sandeep Bodduluri](#)⁴, [David Sparrow](#)^{5,6}, [Jean-Paul Charbonnier](#)⁷, [George R Washko](#)², [Alejandro A Diaz](#)²

Affiliations expand

- PMID: 38273887
- PMCID: [PMC10809101](#)

- DOI: [10.1016/j.eclinm.2023.102408](https://doi.org/10.1016/j.eclinm.2023.102408)

Free PMC article

Abstract

Background: Abnormal lung function trajectories are associated with increased risk of chronic obstructive pulmonary disease (COPD) and premature mortality; several risk factors for following these trajectories have been identified. Airway under-sizing dysanapsis (small airway lumens relative to lung size), is associated with an increased risk for COPD. The relationship between dysanapsis and lung function trajectories at risk for adverse outcomes of COPD is largely unexplored. We test the hypothesis that dysanapsis differentially affects distinct lung function trajectories associated with adverse outcomes of COPD.

Methods: To identify lung function trajectories, we applied Bayesian trajectory analysis to longitudinal FEV1 and FVC Z-scores in the COPDGene Study, an ongoing longitudinal study that collected baseline data from 2007 to 2012. To ensure clinical relevance, we selected trajectories based on risk stratification for all-cause mortality and prospective exacerbations of COPD (ECOPD). Dysanapsis was measured in baseline COPDGene CT scans as the airway lumen-to-lung volume (a/l) ratio. We compared a/l ratios between trajectories and evaluated their association with trajectory assignment, controlling for previously identified risk factors. We also assigned COPDGene participants for whom only baseline data is available to their most likely trajectory and repeated our analysis to further evaluate the relationship between trajectory assignment and a/l ratio measures.

Findings: We identified seven trajectories: supranormal, reference, and five trajectories at increased risk for mortality and exacerbations. Three at-risk trajectories are characterized by varying degrees of concomitant FEV1 and FVC impairments and exhibit airway predominant COPD patterns as assessed by quantitative CT imaging. These trajectories have lower a/l ratio values and increased risk for mortality and ECOPD compared to the reference trajectory. Two at-risk trajectories are characterized by disparate levels of FEV1 and FVC impairment and exhibit mixed airway and emphysema COPD patterns on quantitative CT imaging. These trajectories have markedly lower a/l ratio values compared to both the reference trajectory and airway-predominant trajectories and are at greater risk for mortality and ECOPD compared to the airway-predominant trajectories. These findings were observed among the participants with baseline-only data as well.

Interpretation: The degree of dysanapsis appears to portend patterns of progression leading to COPD. Assignment of individuals-including those without spirometric obstruction-to distinct trajectories is possible in a clinical setting and may influence management strategies. Strategies that combine CT-assessed dysanapsis together with spirometric measures of lung function and smoke exposure assessment are likely to further improve trajectory assignment accuracy, thereby improving early detection of those most at risk for adverse outcomes.

Funding: United States National Institute of Health, COPD Foundation, and Brigham and Women's Hospital.

Keywords: Anatomic variation; Chronic obstructive pulmonary disease; Dysanapsis; Lung; Lung function trajectories.

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Conflict of interest statement

Dr. Ross reports grants from National Heart Lung and Blood Institute, during the conduct of the study. Dr. San José Estepar reports grants from NHLBI, during the conduct of the study; other from Lung Biotechnology, from Insmad, grants from Boehringer Ingelheim, outside the submitted work; and co-founder and stock holder of Quantitative Imaging Solutions, an imaging analytics company in the lung cancer space. Dr. Ash reports grants from NHLBI, during the conduct of the study; other from Quantitative Imaging Solutions, other from Verona Pharmaceuticals, other from Vertex Pharmaceuticals, other from Triangulate Knowledge, other from Boehringer Ingelheim, outside the submitted work. Dr. Pistenmaa reports grants from NIH/NHLBI, during the conduct of the study. Dr. Han reports grants from NIH NHLBI, during the conduct of the study; grants from NIH, personal fees from Sanofi, personal fees from Novartis, personal fees from Nuaira, personal fees from Sunovion, personal fees from Gala Therapeutics, grants from COPD Foundation, personal fees from AstraZeneca, grants from American Lung Association, personal fees from Boehringer Ingelheim, personal fees from Biodesix, personal fees from GlaxoSmithKline, personal fees from Pulmonx, personal fees from Teva, personal fees from Verona, personal fees from Merck, personal fees from Mylan, personal fees from DevPro, personal fees from Aerogen, personal fees from Polarian, personal fees from United Therapeutics, personal fees from Regeneron, personal fees from Altesa BioPharma, personal fees from Amgen, personal fees from Roche, personal fees from Cipla, personal fees from Chiesi, personal fees from Medscape, personal fees from Integrity, personal fees from NACE, personal fees from Medwiz, outside the submitted work. Novartis, Medtronic (participation on data safety monitoring board/advisory board)—funds paid to institution. Leadership/fiduciary role on the following: COPD Foundation Board, COPD Foundation Scientific Advisory Committee, ALA advisory committee, American Thoracic Society journal editor, ALA volunteer spokesperson, GOLD scientific committee, Emerson School Board (Ann Arbor, MI). Stock or stock options: Meissa Vaccines, Altesa BioPharma. Writing support: GSK, Boehringer Ingelheim, AstraZeneca, Novartis. Royalties from Uptodate, Norton Publishing, and Penguin Random House. Dr. Bhatt reports grants and personal fees from Sanofi, grants and personal fees from Regeneron, personal fees from Boehringer Ingelheim, personal fees from GSK, outside the submitted work. Dr. Bodduluri has nothing to disclose. Dr. Sparrow has nothing to disclose. Dr. Charbonnier reports personal fees and other from Thirona, outside the submitted work. Dr. Washko reports grants from NHLBI, grants from Boehringer Ingelheim, grants from DoD, other from Vertex Pharmaceuticals, other from Pieris Therapeutics, other from Intellia Therapeutics, other from Sanofi, outside

the submitted work; and Dr. Washko is a co-founder and equity share holder in Quantitative Imaging Solutions, a company that provides consulting services for image and data analytics. Dr. Washko's spouse works for Biogen. Dr. Diaz reports grants from National Heart Lung and Blood Institute, during the conduct of the study; personal fees from Boehringer Ingelheim, outside the submitted work; in addition, Dr. Diaz has a patent "Methods and Compositions Relating to Airway Dysfunction" pending.

- [29 references](#)
- [2 figures](#)

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EClinicalMedicine

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. 2024 Jan 21:68:102423.

doi: 10.1016/j.eclinm.2024.102423. eCollection 2024 Feb.

[Prevalence of chronic cough, its risk factors and population attributable risk in the Burden of Obstructive Lung Disease \(BOLD\) study: a multinational cross-sectional study](#)

[Hazim Abozid](#)^{1,2}, [Jaymini Patel](#)³, [Peter Burney](#)³, [Sylvia Hartl](#)^{2,4}, [Robab Breyer-Kohansal](#)^{2,5}, [Kevin Mortimer](#)^{6,7}, [Asaad A Nafees](#)⁸, [Mohammed Al Ghobain](#)^{9,10}, [Tobias Welte](#)¹¹, [Imed Harrabi](#)¹², [Meriam Denguezli](#)¹³, [Li Cher Loh](#)¹⁴, [Abdul Rashid](#)¹⁴, [Thorarinn Gislason](#)^{15,16}, [Cristina Barbara](#)^{17,18}, [Joao Cardoso](#)^{19,20}, [Fatima Rodrigues](#)^{18,21}, [Terence Seemungal](#)²², [Daniel Obaseki](#)^{23,24}, [Sanjay Juvekar](#)²⁵, [Stefanni Nonna Paraguas](#)²⁶, [Wan C Tan](#)²⁷, [Frits M E Franssen](#)²⁸, [Filip Mejza](#)²⁹, [David Mannino](#)^{30,31}, [Christer Janson](#)³², [Hamid Hacene Cherkaski](#)¹³, [Mahesh Padukudru Anand](#)³³, [Hasan Hafizi](#)³⁴, [Sonia Buist](#)³⁵, [Parvaiz A Koul](#)³⁶, [Asma El Sony](#)³⁷, [Marie-Kathrin Breyer](#)^{1,2}, [Otto C Burghuber](#)^{2,4}, [Emiel F M Wouters](#)^{2,28}, [Andre F S Amaral](#)^{3,38}; [BOLD Collaborative Research Group](#)

Collaborators, Affiliations expand

- PMID: 38268532
- PMCID: [PMC10807979](#)
- DOI: [10.1016/j.eclinm.2024.102423](#)

Free PMC article

Abstract

Background: Chronic cough is a common respiratory symptom with an impact on daily activities and quality of life. Global prevalence data are scarce and derive mainly from European and Asian countries and studies with outcomes other than chronic cough. In this study, we aimed to estimate the prevalence of chronic cough across a large number of study sites as well as to identify its main risk factors using a standardised protocol and definition.

Methods: We analysed cross-sectional data from 33,983 adults (≥ 40 years), recruited between Jan 2, 2003 and Dec 26, 2016, in 41 sites (34 countries) from the Burden of Obstructive Lung Disease (BOLD) study. We estimated the prevalence of chronic cough for each site accounting for sampling design. To identify risk factors, we conducted multivariable logistic regression analysis within each site and then pooled estimates using random-effects meta-analysis. We also calculated the population attributable risk (PAR) associated with each of the identified risk factors.

Findings: The prevalence of chronic cough varied from 3% in India (rural Pune) to 24% in the United States of America (Lexington, KY). Chronic cough was more common among females, both current and passive smokers, those working in a dusty job, those with a history of tuberculosis, those who were obese, those with a low level of education and those with hypertension or airflow limitation. The most influential risk factors were current smoking and working in a dusty job.

Interpretation: Our findings suggested that the prevalence of chronic cough varies widely across sites in different world regions. Cigarette smoking and exposure to dust in the workplace are its major risk factors.

Funding: Wellcome Trust.

Keywords: Chronic cough; Epidemiology; Excess risk; Global health.

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Conflict of interest statement

Fatima Rodrigues declares grants and personal fees from A. Menarini, Boehringer Ingelheim, Teva Pharma, Novartis, GlaxoSmithKline, AstraZeneca, VitalAire and Nippon Gases outside the submitted work. Wan C. Tan received grants from the Canadian Institute of Health Research (CIHR/Rx&D Collaborative Research Program Operating Grants- 93,326) with industry partners Astra Zeneca Canada Ltd., Boehringer-Ingelheim Canada Ltd, GlaxoSmithKline Canada Ltd, Merck, Novartis Pharma Canada Inc., Nycomed Canada Inc., Pfizer Canada Ltd. for conducting the longitudinal population-based Canadian Cohort of Obstructive Lung Disease (CanCOLD) study on COPD. David Mannino is a consultant to GSK, AstraZeneca, Regeneron, Genentech, COPD Foundation, and expert witness on behalf of people suing Tobacco Industry (Schlesinger Law Firm). Sonia Buist is Chair of the Data Safety & Monitoring Board for the RELIANCE Clinical Trial. Frits Franssen declares personal fees from AstraZeneca, Chiesi, GlaxoSmithKline, MSD, Pieris, and Verona Pharma. Robab Breyer-Kohansal declares consulting fees from AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline, Menarini, Novartis Pharma, and Sanofi, and participation on advisory boards for AstraZeneca, Menarini, and Sanofi. Thorarinn Gislason received a grant from the Icelandic Research Fund. Kevin Mortimer declares participation on advisory boards for AstraZeneca and GlaxoSmithKline. Sylvia Hartl declares grants from GSK, Chiesi Farma, Menarini Pharma, and AstraZeneca, and participation on advisory boards for Menarini Pharma and GSK. AFSA declares a grant from the COLT Foundation (CF/01/21).

- [53 references](#)
- [2 figures](#)

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. 2024 Jan 30;62(2):20.

doi: 10.1136/dtb.2024.000002.

Can antidepressants worsen COPD?

No authors listed

- PMID: 38233110
- DOI: [10.1136/dtb.2024.000002](https://doi.org/10.1136/dtb.2024.000002)

Abstract

Overview of: Siraj RA, Bolton CE, McKeever TM. Association between antidepressants with pneumonia and exacerbation in patients with COPD: a self-controlled case series (SCCS). *Thorax*. 2023. doi:10.1136/thorax-2022-219736 [Epub ahead of print 19 June 2023].

Keywords: Drug-Related Side Effects and Adverse Reactions; Health Care Quality, Access, and Evaluation.

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Eur Respir Rev

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. 2024 Jan 17;33(171):230143.

doi: 10.1183/16000617.0143-2023. Print 2024 Jan 31.

From treatable traits to GETomics in airway disease: moving towards clinical practice

[Alberto Papi](#)¹, [Rosa Faner](#)², [Ian Pavord](#)³, [Federico Baraldi](#)⁴, [Vanessa M McDonald](#)⁵, [Mike Thomas](#)⁶, [Marc Miravittles](#)⁷, [Nicholas Roche](#)⁸, [Alvar Agustí](#)^{9,10}

Affiliations expand

- PMID: 38232989
- PMCID: [PMC10792438](#)
- DOI: [10.1183/16000617.0143-2023](#)

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Abstract

The treatable traits approach represents a strategy for patient management. It is based on the identification of characteristics susceptible to treatments or predictive of treatment response in each individual patient. With the objective of accelerating progress in research and clinical practice relating to such a treatable traits approach, the Portraits event was convened in Barcelona, Spain, in November 2022. Here, while reporting the key concepts that emerged from the discussions during the meeting, we review the current state of the art related to treatable traits and chronic respiratory diseases management, and we describe the possible actions that clinicians can take in clinical practice to implement the

treatable traits framework. Furthermore, we explore the new concept of GETomics and the new models of research in the field of COPD.

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Conflict of interest statement

Conflicts of interest: A Papi reports honoraria from AstraZeneca, Chiesi Farmaceutici, Boehringer Ingelheim, GlaxoSmithKline, Gentili, Pfizer, Novartis, Mundipharma, Novartis, TEVA and Zambon; research grants from AstraZeneca, Chiesi Farmaceutici, Boehringer Ingelheim, GlaxoSmithKline, Menarini, Fondazione Maugeri and Fondazione Chiesi; participation in a company sponsored bureau with AstraZeneca, Boehringer Ingelheim, Chiesi Farmaceutici, Edmondpharma, GlaxoSmithKline, Mundipharma, Novartis, Sanofi/Regeneron, TEVA and Zambon. R. Faner reports honoraria from AstraZeneca and Chiesi, and research grants from GSK, AstraZeneca and Menarini. I. Pavord reports honoraria from AstraZeneca, Boehringer Ingelheim, Aerocrine, Chiesi, Novartis, Sanofi, Regeneron and GSK; research grants from Boehringer Ingelheim, GSK, AstraZeneca, Chiesi and Napp; participation in a company sponsored bureau with Almirall, AstraZeneca, Boehringer Ingelheim, GSK, MSD, Schering-Plough, Novartis, Dey, Napp, Sanofi and Regeneron. F. Baraldi reports no conflicts. V.M. McDonald reports honoraria from GSK and AstraZeneca; research grants from NHMRC and the Medical Research Futures Fund; other support or other potential conflict of interest: committee member for the COPD X guideline committee. M. Thomas reports honoraria from GSK, Boehringer Ingelheim and Chiesi. M. Miravittles reports honoraria from AstraZeneca, Atriva Therapeutics, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Bial, Gebro Pharma, CSL Behring, Inhibrx, Laboratorios Esteve, Ferrer, Menarini, Mereo Biopharma, Verona Pharma, Spin Therapeutics, ONO Pharma, pH Pharma, Palobiofarma SL, Takeda, Novartis, Sanofi and Grifols; research grants from Grifols; participation in a company sponsored bureau with AstraZeneca, Boehringer Ingelheim, Chiesi, Cipla, Menarini, Rovi, Bial, Kamada, Takeda, Sandoz, Zambon, CSL Behring, Specialty Therapeutics, Janssen, Grifols and Novartis. N. Roche reports honoraria from AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Zambon, Novartis, Pfizer, Sanofi, Teva, MSD and Austral; research grants from GSK, Novartis, Pfizer and Boehringer Ingelheim; other support or other potential conflict of interest: GOLD science committee, Respiratory Effectiveness Group, European Respiratory Society. A. Agustí reports honoraria from AstraZeneca, Chiesi, GSK, Menarini, MSD, Sanofi and Zambon; and research grants from AstraZeneca, GSK and Menarini.

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Respirology

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. 2024 Feb;29(2):187-188.

doi: 10.1111/resp.14655. Epub 2024 Jan 4.

Letter from Australia

[Christine F McDonald](#)^{1,2,3}

Affiliations expand

- PMID: 38176687
- DOI: [10.1111/resp.14655](https://doi.org/10.1111/resp.14655)

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No abstract available

Keywords: COPD; COVID-19; air pollution; asthma; lung cancer; tobacco.

- [4 references](#)

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Publication types, MeSH termsexpand

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J Allergy Clin Immunol Glob

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. 2023 Nov 21;3(1):100194.

doi: 10.1016/j.jacig.2023.100194. eCollection 2024 Feb.

Sputum microbiota and inflammatory subtypes in asthma, COPD, and its overlap

[Chie Morimoto](#)¹, [Hisako Matsumoto](#)^{1,2}, [Natsuko Nomura](#)¹, [Hironobu Sunadome](#)^{1,3}, [Tadao Nagasaki](#)^{1,3}, [Susumu Sato](#)^{1,3}, [Atsuyasu Sato](#)¹, [Tsuyoshi Oguma](#)¹, [Isao Ito](#)¹, [Mariko Kogo](#)^{1,4}, [Keisuke Tomii](#)⁴, [Tomoko Tajiri](#)^{5,6}, [Kai Ohashi](#)⁷, [Takamitsu Tsukahara](#)⁷, [Toyohiro Hirai](#)¹

Affiliations expand

- PMID: 38155860
- PMCID: [PMC10753087](#)
- DOI: [10.1016/j.jacig.2023.100194](#)

Free PMC article

Abstract

Background: Airway microbiota in asthma-chronic obstructive pulmonary disease (COPD) overlap (ACO) remains unknown.

Objective: This study with ACO-enriched population aimed to clarify airway microbiota in ACO and in mixed granulocytic inflammation, often detected in ACO and chronic airway diseases.

Methods: This is an observational cross-sectional study. Patients with asthma with airflow limitation, ACO, and COPD were enrolled. Blood tests, pulmonary function, exhaled nitric oxide, and sputum tests were conducted. Sputum microbiota was evaluated using the 16S rRNA gene sequencing technique.

Results: A total of 112 patients (13 asthma, 67 ACO, and 32 COPD) were examined. There were no significant differences in α -diversity among the 3 diseases. The relative abundances of phylum Bacteroidetes, class Bacteroidia, and genus *Porphyromonas* were associated with decreased eosinophilic inflammation, and were significantly lower in ACO than in COPD. In a comparison of sputum inflammatory subtypes, the proportion of *Haemophilus* was numerically highest in the mixed granulocytic subtype, followed by the neutrophilic subtype. Likewise, the proportion of *Haemophilus* was the highest in the intermediate-high (2%-8%) sputum eosinophil group and lowest in the severe ($\geq 8\%$) eosinophil group. Clinically, *Haemophilus* proportion was associated with sputum symptoms. Finally, the proportion of *Streptococcus* was associated with higher blood eosinophil counts and most severe airflow limitation.

Conclusions: Bacteroidia and *Porphyromonas* abundances in sputum are associated with the eosinophil-low phenotype, and ACO may be characterized by a decrease in these taxa. A mild elevation in sputum eosinophil does not preclude the presence of *Haemophilus*, which should be noted in the management of obstructive airway diseases.

Keywords: Asthma-COPD overlap; eosinophil-low; mixed granulocytic subtype; sputum microbiome.

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Conflict of interest statement

This study was funded by the 10.13039/100019085 Japanese Respiratory Foundation and the 10.13039/501100001691 Japan Society for the Promotion of Science (grant nos. 19K08649 and 22K08271). Disclosure of potential conflict of interest: The authors declare that they have no relevant conflicts of interest.

- [47 references](#)
- [6 figures](#)

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Lancet Respir Med



. 2024 Feb;12(2):141-152.

doi: 10.1016/S2213-2600(23)00338-7. Epub 2023 Nov 29.

[Low-dose CT screening among never-smokers with or without a family history of lung cancer in Taiwan: a prospective cohort study](#)

[Gee-Chen Chang](#)¹, [Chao-Hua Chiu](#)², [Chong-Jen Yu](#)³, [Yeun-Chung Chang](#)⁴, [Ya-Hsuan Chang](#)⁵, [Kuo-Hsuan Hsu](#)⁶, [Yu-Chung Wu](#)⁷, [Chih-Yi Chen](#)⁸, [Hsian-He Hsu](#)⁹, [Ming-Ting Wu](#)¹⁰, [Cheng-Ta Yang](#)¹¹, [Inn-Wen Chong](#)¹², [Yu-Ching Lin](#)¹³, [Te-Chun Hsia](#)¹⁴, [Meng-Chih Lin](#)¹⁵, [Wu-Chou Su](#)¹⁶, [Chih-Bin Lin](#)¹⁷, [Kang-Yun Lee](#)¹⁸, [Yu-Feng Wei](#)¹⁹, [Gong-Yau Lan](#)²⁰, [Wing P Chan](#)²¹, [Kao-Lun Wang](#)²², [Mei-Han Wu](#)²³, [Hao-Hung Tsai](#)²⁴, [Chih-Feng Chian](#)²⁵, [Ruay-Sheng Lai](#)²⁶, [Jin-Yuan Shih](#)²⁷, [Chi-Liang Wang](#)²⁸, [Jui-Sheng Hsu](#)²⁹, [Kun-Chieh Chen](#)³⁰, [Chun-Ku Chen](#)³¹, [Jiun-Yi Hsia](#)³², [Chung-Kan Peng](#)³³, [En-Kuei Tang](#)³⁴, [Chia-Lin Hsu](#)²⁷, [Teh-Ying Chou](#)³⁵, [Wei-Chih Shen](#)³⁶, [Ying-Huang Tsai](#)³⁷, [Chun-Ming Tsai](#)³⁸, [Yuh-Min Chen](#)³⁹, [Yu-Chin Lee](#)⁴⁰, [Hsuan-Yu Chen](#)⁴¹, [Sung-Liang Yu](#)⁴², [Chien-Jen Chen](#)⁴³, [Yung-Liang Wan](#)⁴⁴, [Chao Agnes Hsiung](#)⁴⁵, [Pan-Chyr Yang](#)⁴⁶; [TALENT Investigators](#)

Collaborators, Affiliations [expand](#)

- PMID: 38042167
- DOI: [10.1016/S2213-2600\(23\)00338-7](https://doi.org/10.1016/S2213-2600(23)00338-7)

Abstract

Background: In Taiwan, lung cancers occur predominantly in never-smokers, of whom nearly 60% have stage IV disease at diagnosis. We aimed to assess the efficacy of low-dose CT (LDCT) screening among never-smokers, who had other risk factors for lung cancer.

Methods: The Taiwan Lung Cancer Screening in Never-Smoker Trial (TALENT) was a nationwide, multicentre, prospective cohort study done at 17 tertiary medical centres in Taiwan. Eligible individuals had negative chest radiography, were aged 55–75 years, had never smoked or had smoked fewer than 10 pack-years and stopped smoking for more than 15 years (self-report), and had one of the following risk factors: a family history of lung cancer; passive smoke exposure; a history of pulmonary tuberculosis or chronic obstructive pulmonary disorders; a cooking index of 110 or higher; or cooking without using ventilation. Eligible participants underwent LDCT at baseline, then annually for 2 years, and then every 2 years up to 6 years thereafter, with follow-up assessments at each LDCT scan (ie, total follow-up of 8 years). A positive scan was defined as a solid or part-solid nodule larger than 6 mm in mean diameter or a pure ground-glass nodule larger than 5 mm in mean diameter. Lung cancer was diagnosed through invasive procedures, such as image-guided aspiration or biopsy or surgery. Here, we report the results of 1-year follow-up after LDCT screening at baseline. The primary outcome was lung cancer detection rate. The p value for detection rates was estimated by the χ^2 test. Univariate and multivariable logistic regression analyses were used to assess the association between lung cancer incidence and each risk factor. The sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of LDCT screening were also assessed. This study is registered with ClinicalTrials.gov, [NCT02611570](https://clinicaltrials.gov/ct2/show/study/NCT02611570), and is ongoing.

Findings: Between Dec 1, 2015, and July 31, 2019, 12 011 participants (8868 females) were enrolled, of whom 6009 had a family history of lung cancer. Among 12 011 LDCT scans done at baseline, 2094 (17.4%) were positive. Lung cancer was diagnosed in 318 (2.6%) of 12 011 participants (257 [2.1%] participants had invasive lung cancer and 61 [0.5%] had adenocarcinomas in situ). 317 of 318 participants had adenocarcinoma and 246 (77.4%) of 318 had stage I disease. The prevalence of invasive lung cancer was higher among participants with a family history of lung cancer (161 [2.7%] of 6009 participants) than in those without (96 [1.6%] of 6002 participants). In participants with a family history of lung cancer, the detection rate of invasive lung cancer increased significantly with age, whereas the detection rate of adenocarcinoma in situ remained stable. In multivariable analysis, female sex, a family history of lung cancer, and age older than 60 years were associated with an increased risk of lung cancer and invasive lung cancer; passive smoke exposure, cumulative exposure to cooking, cooking without ventilation, and a previous history of chronic lung diseases were not associated with lung cancer, even after stratification by family history of lung cancer. In participants with a family history of lung cancer, the higher the number of first-degree relatives affected, the higher the risk of lung cancer; participants whose mother or sibling had lung cancer were also at an increased risk. A positive LDCT scan had 92.1% sensitivity, 84.6% specificity, a PPV of 14.0%, and a NPV of 99.7% for lung cancer diagnosis.

Interpretation: TALENT had a high invasive lung cancer detection rate at 1 year after baseline LDCT scan. Overdiagnosis could have occurred, especially in participants diagnosed with adenocarcinoma in situ. In individuals who do not smoke, our findings suggest that a family history of lung cancer among first-degree relatives significantly increases the risk of lung cancer as well as the rate of invasive lung cancer with increasing age. Further research on risk factors for lung cancer in this population is needed, particularly for those without a family history of lung cancer.

Funding: Ministry of Health and Welfare of Taiwan.

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Conflict of interest statement

Declaration of interests We declare no competing interests.

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Am J Respir Crit Care Med

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. 2024 Feb 1;209(3):339-340.

doi: 10.1164/rccm.202309-1709LE.

[Is This Really a New START in Chronic Obstructive Pulmonary Disease?](#)

[J Alberto Neder](#)¹

Affiliations expand

- PMID: 38033314
- DOI: [10.1164/rccm.202309-1709LE](https://doi.org/10.1164/rccm.202309-1709LE)

No abstract available

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Am J Respir Crit Care Med

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. 2024 Feb 1;209(3):341-342.

doi: 10.1164/rccm.202310-1761LE.

[Use FEV₁/FVC Z-Score Staging to Minimize Sex and Age Bias in Staging Chronic Obstructive Pulmonary Disease](#)

[Brian L Graham](#)¹

Affiliations expand

- PMID: 38033313

- DOI: [10.1164/rccm.202310-1761LE](https://doi.org/10.1164/rccm.202310-1761LE)

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Am J Respir Crit Care Med

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. 2024 Feb 1;209(3):340-341.

doi: 10.1164/rccm.202310-1739LE.

[Novel FEV₁/FVC-based Diagnosis and Severity Classification of Chronic Obstructive Pulmonary Disease: How about FEV₁ % Predicted Basing?](#)

[Hiroaki Ogata](#)¹, [Yasuyoshi Washio](#)², [Makoto Yoshida](#)¹

Affiliations expand

- PMID: 38033312

- DOI: [10.1164/rccm.202310-1739LE](https://doi.org/10.1164/rccm.202310-1739LE)

No abstract available

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Publication types, MeSH termsexpand

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22

Am J Med Sci

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. 2024 Feb;367(2):95-104.

doi: 10.1016/j.amjms.2023.11.006. Epub 2023 Nov 14.

[Echocardiography and pulmonary hypertension in patients with chronic obstructive pulmonary disease undergoing lung transplantation evaluation](#)

[Moustafa Younis](#)¹, [Nada Al-Antary](#)², [Rami Dalbah](#)³, [Ahmad Qarajeh](#)⁴, [Asim N Khanfar](#)⁵, [Abdullah Abu Kar](#)⁶, [Raju Reddy](#)⁷, [Bashar N Alzghoul](#)⁸

Affiliations expand

- PMID: 37967751

- DOI: [10.1016/j.amjms.2023.11.006](https://doi.org/10.1016/j.amjms.2023.11.006)

Abstract

Background: The use of echocardiography in pulmonary hypertension (PH) in advanced chronic obstructive pulmonary disease (COPD) is understudied. We aimed to compare the performance of echocardiography with right heart catheterization (RHC) in the diagnosis of PH in COPD patients undergoing lung transplant evaluation.

Methods: We included 111 patients with severe COPD who underwent RHC in a single center as part of lung transplantation evaluation. COPD-PH and severe COPD-PH were defined based on RHC per the 6th world symposium on pulmonary hypertension. Echocardiographic probability of PH was described according to the European Society of Cardiology guidelines. Summary and univariate analyses were performed.

Results: The mean age (\pm SD) was 62 (8) and 47% (n=52) were men. A total of 82 patients (74 %) had COPD-PH. The sensitivity, specificity, positive predictive, and negative predictive values of echocardiography in diagnosing COPD-PH were 43 %, 83 %, 88 %, and 34 % respectively and for severe COPD-PH were 67 %, 75 %, 50 %, and 86 % respectively. Echocardiography was consistent with RHC in ruling in/out PH in 53% (n=59) of patients. After controlling for age, sex, BMI, pack year, echocardiography-RHC time difference, GOLD class, FVC, and CT finding of emphysema, higher TLC decreased consistency (parameter estimate=-0.031; odds ratio: 0.97, 95%CI 0.94-0.99; p=0.037) and higher DLCO increased consistency (parameter estimate=0.070; odds ratio: 1.07, 95%CI 0.94-0.99; p=0.026).

Conclusions: Echocardiography has high specificity but low sensitivity for the diagnosis of PH in advanced COPD. Its performance improves when ruling out severe COPD-PH. This performance correlates inversely with lung hyperinflation.

Keywords: Chronic Obstructive Pulmonary Disease; Echocardiography; Lung Transplant; Pulmonary Hypertension.

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Conflict of interest statement

Declaration of Competing Interest The authors have no conflicts of interest

SUPPLEMENTARY INFO

MeSH termsexpand

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Ann Am Thorac Soc

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. 2024 Feb;21(2):356-360.

doi: 10.1513/AnnalsATS.202303-244RL.

Long-Term Home Noninvasive Ventilation and Exacerbations of Chronic Obstructive Pulmonary Disease: A Real-World Study

[Jeffrey Marciniuk](#)^{1,2}, [Michael Frohlich](#)^{1,3}, [Jean Bourbeau](#)⁴, [Marta Kaminska](#)⁴, [Isabelle Drouin](#)¹, [Isabelle Ouellet](#)¹, [Bryan Ross](#)⁴

Affiliations [expand](#)

- PMID: 37948735
- DOI: [10.1513/AnnalsATS.202303-244RL](https://doi.org/10.1513/AnnalsATS.202303-244RL)

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24

Randomized Controlled Trial

Ann Am Thorac Soc



. 2024 Feb;21(2):251-260.

doi: 10.1513/AnnalsATS.202306-520OC.

Sustained Clinical Benefits of Spiration Valve System in Patients with Severe Emphysema: 24-Month Follow-Up of EMPROVE

[Gerard J Criner](#)¹, [Jorge M Mallea](#)², [Muhanned Abu-Hijleh](#)³, [Ashutosh Sachdeva](#)⁴, [Ravi Kalhan](#)⁵, [Christopher A Hergott](#)⁶, [Donald R Lazarus](#)⁷, [Richard A Mularski](#)⁸, [Karel Calero](#)⁹, [Michael F Reed](#)¹⁰, [Stephanie Nsiah-Dosu](#)¹¹, [David Himes](#)¹², [Hiroshi Kubo](#)¹³, [C Matthew Kinsey](#)¹⁴, [Adnan Majid](#)¹⁵, [D Kyle Hogarth](#)¹⁶, [Philip V Kaplan](#)¹⁷, [Amy Hajari Case](#)¹⁸, [Samir S Makani](#)¹⁹, [Tze-Ming Chen](#)²⁰, [Antoine Delage](#)²¹, [Michael Zgoda](#)²², [Ray W Shepherd](#)²³

Affiliations expand

- PMID: 37948704
- DOI: [10.1513/AnnalsATS.202306-520OC](https://doi.org/10.1513/AnnalsATS.202306-520OC)

Abstract

Rationale: Follow-up of patients with emphysema treated with endobronchial valves is limited to 3-12 months after treatment in prior reports. To date, no comparative data exist between treatment and control subjects with a longer follow-up. **Objectives:** To assess the

durability of the Spiration Valve System (SVS) in patients with severe heterogeneous emphysema over a 24-month period. **Methods:** EMPROVE, a multicenter randomized controlled trial, presents a rigorous comparison between treatment and control groups for up to 24 months. Lung function, respiratory symptoms, and quality-of-life (QOL) measures were assessed. **Results:** A significant improvement in forced expiratory volume in 1 second was maintained at 24 months in the SVS treatment group versus the control group. Similarly, significant improvements were maintained in several QOL measures, including the St. George's Respiratory Questionnaire and the COPD Assessment Test. Patients in the SVS treatment group experienced significantly less dyspnea than those in the control group, as indicated by the modified Medical Research Council dyspnea scale score. Adverse events at 24 months did not significantly differ between the SVS treatment and control groups. Acute chronic obstructive pulmonary disease exacerbation rates in the SVS treatment and control groups were 13.7% (14 of 102) and 15.6% (7 of 45), respectively. Pneumothorax rates in the SVS treatment and control groups were 1.0% (1 of 102) and 0.0% (0 of 45), respectively. **Conclusions:** SVS treatment resulted in statistically significant and clinically meaningful durable improvements in lung function, respiratory symptoms, and QOL, as well as a statistically significant reduction in dyspnea, for at least 24 months while maintaining an acceptable safety profile. Clinical trial registered with www.clinicaltrials.gov ([NCT01812447](https://doi.org/10.1186/1745-7581-10-12447)).

Keywords: air trapping; chronic obstructive pulmonary disease; dyspnea; endobronchial valves; hyperinflation.

Comment in

- [EMPROVE 24-Month Follow-Up: Judge Success by Quality of Life, Not Just Spirometry.](#)
Mahajan AK. *Ann Am Thorac Soc.* 2024 Feb;21(2):206-207. doi: 10.1513/AnnalsATS.202311-1005ED.PMID: 38299921 No abstract available.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Associated data, Grants and funding [expand](#)

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. 2024 Feb;11(1):219-228.

doi: 10.1002/ehf2.14574. Epub 2023 Nov 8.

Self-efficacy and healthcare costs in patients with chronic heart failure or chronic obstructive pulmonary disease

[Elin Blanck](#)^{1,2}, [Laura Pirhonen Nørmark](#)³, [Andreas Fors](#)^{1,2,4}, [Inger Ekman](#)^{1,2,5}, [Lilas Ali](#)^{1,2}, [Karl Swedberg](#)^{2,6}, [Hanna Gyllensten](#)^{1,2}

Affiliations expand

- PMID: 37940106
- PMCID: [PMC10804184](#)
- DOI: [10.1002/ehf2.14574](#)

Free PMC article

Abstract

Aims: This study aims to explore possible associations between self-efficacy and healthcare and drug expenditures (i.e. direct costs) in patients with chronic heart failure (CHF) or chronic obstructive pulmonary disease (COPD) in a study investigating the effects of person-centred care delivered by telephone.

Methods and results: This exploratory analysis uses data from an open randomized controlled trial conducted between January 2015 and November 2016, providing remote person-centred care by phone to patients with CHF, COPD, or both. Patients hospitalized due to worsening of CHF or COPD were eligible for the study. Randomization was based on a computer-generated list, stratified for age ≥ 75 and diagnosis. At a 6 month follow-up, 118 persons remained in a control group and 103 in an intervention group. The

intervention group received person-centred care by phone as an addition to usual care. Trial data were linked to register data on healthcare and drug use. Group-based trajectory modelling was applied to identify trajectories for general self-efficacy and direct costs. Next, associations between self-efficacy trajectories and costs were assessed using regression analysis. Five trajectories were identified for general self-efficacy, of which three indicated different levels of increasing or stable self-efficacy, while two showed a decrease over time in self-efficacy. Three trajectories were identified for costs, indicating a gradient from lower to higher accumulated costs. Increasing or stable self-efficacy was associated with lower direct costs ($P = 0.0013$).

Conclusions: The findings show that an increased or sustained self-efficacy is associated with lower direct costs in patients with CHF or COPD. Person-centred phone contacts used as an add-on to usual care could result in lower direct costs for those with stable or increasing self-efficacy.

Keywords: COPD; Health economics; Heart failure; Person-centred care; Self-efficacy.

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Conflict of interest statement

None declared.

- [35 references](#)
- [3 figures](#)

SUPPLEMENTARY INFO

MeSH terms, Grants and funding [expand](#)

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Ann Am Thorac Soc



. 2024 Feb;21(2):243-250.

doi: 10.1513/AnnalsATS.202301-014OC.

Diffusing Capacity as a Predictor of Hospitalizations in a Clinical Cohort of Chronic Obstructive Pulmonary Disease

[Aparna Balasubramanian](#)¹, [Andrew S Gearhart](#)², [Nirupama Putcha](#)¹, [Ashraf Fawzy](#)¹, [Anil Singh](#)³, [Robert A Wise](#)¹, [Nadia N Hansel](#)¹, [Meredith C McCormack](#)¹

Affiliations expand

- PMID: 37870393
- DOI: [10.1513/AnnalsATS.202301-014OC](https://doi.org/10.1513/AnnalsATS.202301-014OC)

Abstract

Rationale: Chronic obstructive pulmonary disease (COPD) hospitalizations are a major burden on patients. Diffusing capacity of the lung for carbon monoxide (DL_{CO}) is a potential predictor that has not been studied in large cohorts. **Objectives:** This study used electronic health record data to evaluate whether clinically obtained DL_{CO} predicts COPD hospitalizations. **Methods:** We performed time-to-event analyses of individuals with COPD and DL_{CO} measurements from the Johns Hopkins COPD Precision Medicine Center of Excellence. Cox proportional hazard methods were used to model time from DL_{CO} measurement to first COPD hospitalization and composite first hospitalization or death, adjusting for age, sex, race, body mass index, smoking status, forced expiratory volume in 1 second (FEV_1), history of prior COPD hospitalization, and comorbidities. To identify the utility of including DL_{CO} in risk models, area under the receiver operating curve (AUC) values were calculated for models with and without DL_{CO} . Results were externally validated in a separate analogous cohort. **Results:** Of 2,793 participants, 368 (13%) had a COPD hospitalization within 3 years. In adjusted analyses, for every 10% decrease in DL_{CO} % predicted, risk of COPD hospitalization increased by 10% (hazard ratio, 1.1; 95% confidence interval, 1.1-1.2; $P < 0.001$). Similar associations were observed for COPD hospitalizations or death. The model including demographics, comorbidities, FEV_1 , DL_{CO} , and prior COPD hospitalizations performed well, with an AUC of 0.85 and an AUC of 0.84 in an external validation cohort. **Conclusions:** Diffusing capacity is a strong predictor of COPD hospitalizations in a clinical cohort of individuals with COPD, independent of airflow

obstruction and prior hospitalizations. These findings support incorporation of DL_{CO} in risk assessment of patients with COPD.

Keywords: COPD; exacerbations; pulmonary diffusing capacity; pulmonary gas exchange.

SUPPLEMENTARY INFO

MeSH terms, Grants and funding expand

FULL TEXT LINKS



[Proceed to details](#)

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27

Diabetes Obes Metab



. 2024 Feb;26(2):482-494.

doi: 10.1111/dom.15334. Epub 2023 Oct 17.

[Metabolic syndrome, genetic susceptibility, and risk of chronic obstructive pulmonary disease: The UK Biobank Study](#)

[Shiwen Li](#)¹, [Tingjing Zhang](#)², [Honghao Yang](#)^{3,4}, [Qing Chang](#)^{3,4}, [Yuhong Zhao](#)^{3,4}, [Liangkai Chen](#)⁵, [Li Zhao](#)¹, [Yang Xia](#)^{3,4}

Affiliations expand

- PMID: 37846527

- DOI: [10.1111/dom.15334](https://doi.org/10.1111/dom.15334)

Abstract

Aim: To investigate the effect of metabolic syndrome (MetS), genetic predisposition, and their interactions, on the risk of developing chronic obstructive pulmonary disease (COPD).

Methods: Cohort analyses included 287 868 participants from the UK Biobank Study. A genetic risk score for COPD was created using 277 single nucleotide polymorphisms. Cox proportional hazard models were used to evaluate the hazard ratios (HRs) with 95% confidence intervals (CIs) for COPD in relation to exposure factors.

Results: During 2 658 936 person-years of follow-up, 5877 incident cases of COPD were documented. Compared with participants without MetS, those with MetS had a higher risk of COPD (HR 1.24, 95% CI 1.17-1.32). Compared to participants with low genetic predisposition, those with high genetic predisposition had a 17% increased risk of COPD. In the joint analysis, compared with participants without MetS and low genetic predisposition, the HR for COPD for those with MetS and high genetic predisposition was 1.50 (95% CI 1.36-1.65; $P < 0.001$). However, no significant interaction between MetS and genetic risk was found.

Conclusions: Metabolic syndrome was found to be associated with an increased risk of COPD, regardless of genetic risk. It is crucial to conduct further randomized control trials to determine whether managing MetS and its individual components can potentially reduce the likelihood of developing COPD.

Keywords: COPD; cohort; genetic risk score; metabolic syndrome.

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- [56 references](#)

SUPPLEMENTARY INFO

MeSH terms, Grants and funding expand

FULL TEXT LINKS



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28

Am J Prev Med



. 2024 Feb;66(2):324-332.

doi: 10.1016/j.amepre.2023.10.007. Epub 2023 Oct 7.

Association of Stair Use With Risk of Major Chronic Diseases

[Andrea Raisi](#)¹, [Jirapitcha Boonpor](#)², [Megan Breheny](#)³, [Jaime Vasquez](#)⁴, [Carlos Matus](#)⁵, [Ximena Diaz-Martinez](#)⁶, [Jill P Pell](#)⁷, [Frederick K Ho](#)⁷, [Carlos Celis-Morales](#)⁸

Affiliations expand

- PMID: 37813170
- DOI: [10.1016/j.amepre.2023.10.007](https://doi.org/10.1016/j.amepre.2023.10.007)

Free article

Abstract

Introduction: Physical inactivity is associated with a higher risk of chronic diseases. Regular stair use can contribute to increasing physical activity in the population. This study aimed to investigate the association between flights of stairs used daily at home and all-cause mortality and cause-specific incidence and mortality.

Methods: Of the 502,628 UK Biobank participants recruited between 2007 and 2010, 442,027 (mean age, 56±8 years) had available data and were included in the analyses conducted in 2023. Participants were categorized on the basis of flights of stairs climbed daily (1-5, 6-10, 11-15, >15). The disease-specific outcomes were cardiovascular disease, respiratory disease, cancer, type 2 diabetes, and all-cause dementia. Cox proportional hazard models, adjusted for sociodemographic, lifestyle, and health-related confounding factors, were used to analyze the associations between stair use frequency and health outcomes.

Results: Participants were followed up for a median of 10.9 years. Climbing stairs >15 times per day was associated with a lower risk of 8 of the 9 outcomes analyzed than not using stairs. The magnitude of association ranged from 3% (95% CI=0.94, 0.99) lower risk for all-cause cancer to 51% (95% CI=0.39, 0.60) lower risk of chronic obstructive pulmonary disease. Findings were similar for mortality outcomes, with the hazard ratios ranging from 0.82 (95% CI=0.77, 0.87) for all-cause cancer to 0.46 (95% CI=0.23, 0.92) for chronic obstructive pulmonary disease mortality.

Conclusions: Stair use was associated with a lower risk of all-cause mortality and cause-specific incidence and mortality independent of confounding factors, including adiposity and multimorbidity.

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SUPPLEMENTARY INFO

MeSH termsexpand

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Ir J Med Sci

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. 2024 Feb;193(1):477-483.

doi: 10.1007/s11845-023-03456-w. Epub 2023 Jul 13.

[Accuracy of the Apple Watch in measuring oxygen saturation:](#)

comparison with pulse oximetry and ABG

[Banu Arslan](#)¹, [Kemal Sener](#)², [Ramazan Guven](#)², [Mucahit Kapci](#)², [Semih Korkut](#)², [Mehmet N Sutasir](#)², [Mustafa A Tekindal](#)³

Affiliations expand

- PMID: 37440093
- DOI: [10.1007/s11845-023-03456-w](https://doi.org/10.1007/s11845-023-03456-w)

Abstract

Background: Smartwatches have gained tremendous attention in recent years and have become widely accepted by patients, despite not being intended for medical diagnosis.

Objective: This study aimed to determine the accuracy of Apple Watch oxygen saturation measurement in patients with acute exacerbation of COPD by comparing it with medical-grade pulse oximetry and ABG.

Method: This single-center, prospective, cross-sectional study involved 167 patients. Patients presenting with cardiac arrest, life-threatening symptoms, severe hypoxia, or obvious jaundice were excluded. Additionally, patients whose SpO₂ measurements with the Apple Watch took more than 2 min or required eight attempts were also excluded. Vital signs were measured simultaneously using the IntelliVue MX500 monitor with the Masimo Rainbow Set pulse oximeter and the Apple Watch. Concurrently, arterial blood gas (ABG) samples were drawn.

Results: A strong correlation between the Apple Watch 6 and medical-grade pulse oximetry ($r = 0.89$, ICC = 0.940) was noted. The Bland-Altman analysis revealed a mean error of 0.458% between the Apple Watch 6 and ABG (SD: 2.78, level of agreement: - 5.912 to 4.996). The mean error between pulse oximetry and ABG (SD: 5.086, level of agreement; - 10.983 to 8.953) was 1.015%. There was a correlation between respiratory rate and the number of attempts to measure SpO₂ with the Apple Watch 6 ($r = 0.75$, $p < 0.05$).

Conclusion: Apple Watch 6 is an accurate and reliable method for measuring SpO₂ levels in emergency patients who presented with acute exacerbation of COPD. However, tachypneic patients may encounter challenges due to the potential need for multiple attempts to measure their oxygen saturation.

Keywords: Apple Watch; COPD exacerbation; Pulse oximeter; Smartwatch; Wearables.

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- [22 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



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Surg Today

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. 2024 Feb;54(2):113-121.

doi: 10.1007/s00595-023-02707-8. Epub 2023 Jun 4.

[Sex-specific emphysematous changes evaluated by a three-dimensional computed tomography volumetric analysis among patients with smoking histories who underwent resection for lung cancer](#)

[Ashoka Indranatha Wijesinghe](#)¹, [Naohiro Kobayashi](#)¹, [Shinsuke Kitazawa](#)¹, [Naoki Maki](#)¹, [Takahiro Yanagihara](#)¹, [Yusuke Saeki](#)¹, [Shinji Kikuchi](#)¹, [Yukinobu Goto](#)¹, [Hideo Ichimura](#)¹, [Yukio Sato](#)²

Affiliations expand

- PMID: 37271799

- DOI: [10.1007/s00595-023-02707-8](https://doi.org/10.1007/s00595-023-02707-8)

Abstract

Purpose: The present study evaluated the sex-specific susceptibility to the development of emphysema in patients with smoking histories who underwent lung cancer surgeries.

Methods: Lung cancer patients with smoking histories who underwent lung resection at the University of Tsukuba Hospital, Japan, were enrolled. Radiologic emphysematous changes were analyzed using three-dimensional computed tomography (3D-CT). The volume proportion of emphysematous lung per unit of smoking and the relationship between emphysematous change and clinicopathologic factors were evaluated.

Results: Radiologic emphysematous changes analyzed using 3D-CT per pack-year smoked, defined as the Smoking-Emphysema Index (SEI), were greater in females than males. The difference was more profound in adenocarcinoma patients than in non-adenocarcinoma patients (0.70 ± 2.30 vs. 0.21 ± 0.28 , $P = 0.037$).

Conclusion: Female lung cancer patients are more susceptible to smoking-induced emphysema than males. The SEI may be an effective indicator for evaluating smoking-induced emphysema.

Keywords: 3D-CT; Emphysema; Lung cancer; Sex; Smoking.

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- [36 references](#)

SUPPLEMENTARY INFO

MeSH termsexpand

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J Telemed Telecare

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. 2024 Feb;30(2):356-364.

doi: 10.1177/1357633X211059707. Epub 2021 Dec 1.

[A randomized clinical trial of home telemonitoring in patients with advanced heart and lung diseases](#)

[Carlos Hernandez-Quiles](#)¹, [Máximo Bernabeu-Wittel](#)¹, [Bosco Barón-Franco](#)¹, [Alfonso Aguirre Palacios](#)², [M Rocio Garcia-Serrano](#)¹, [Wilfredo Lopez-Jimeno](#)³, [Jose Antonio Perez-de-Leon-Serrano](#)⁴, [Jose Manuel Gómez-Barranco](#)⁵, [Alberto Ruiz-Cantero](#)⁶, [Manuel Quero-Haro](#)³, [Elisa Cubiles-Montero](#)⁷, [Salvador Vergara-Lopez](#)², [Manuel Ollero-Baturone](#)¹

Affiliations expand

- PMID: 34851202
- DOI: [10.1177/1357633X211059707](https://doi.org/10.1177/1357633X211059707)

Abstract

Brief summary: The addition of home monitoring to an integrated care model in patients with advanced chronic heart/lung diseases decreases mortality, hospital and emergency admissions, improves functional status, HRQoL, and is cost-effective.

Background: Telemonitoring is a promising implement for medicine, but its efficacy is unknown in patients with advanced heart and lung failure (AHLF).

Objective: To determine the efficacy of a telemonitoring system added to coordinated clinical care in patients with AHLF.

Design: Randomized phase 3 multicenter clinical trial with parallel groups in adult patients.

Participants: Five spanish centers including patients with AHLF at discharge or in out-patient clinics.

Intervention: Patients were randomly assigned to receive a remote bio-parameters telemonitoring system (TELECARE) or best usual care (UCARE). TELECare patients were provided with devices that collected symptoms and bio-parameters, and transferred them synchronously to a call-center, with a real-time health-care response.

Main measures: Primary end point was the need of admissions/emergency room visits at 45, 90, 180 days. Secondary end points included health care requirements, mortality, functional assessment, health related quality of life (HRQoL), perceived satisfaction, and cost-efficacy.

Results: 510 patients were included (54.5% women, median age 76.5 years; 63.1% suffered heart failure, 13.9% lung failure, and 22.9% both conditions). Clinical and functional features were comparable in both arms. TELECare globally needed less admissions with respect UCARE after 45 days of inclusion (35.4% vs. 46.9%, $p < 0.05$). This tendency was maintained in the subgroups of patients with multimorbidity (34.2% vs. 46.9%, $p < 0.05$), intermediate risk of mortality (36.5% vs. 51.1%, $p < 0.05$), and those included after hospital discharge (34.9% vs. 50.5%, $p < 0.01$). HRQoL significantly improved (TELECare/UCARE EuroQoL baseline of $56.2 \pm 18.2/55.1 \pm 19.7$, $p = 0.054$, and $64 \pm 19.9/56.3 \pm 21.6$; $p < 0.01$ at the end), and perceived satisfaction was also higher (6.77 ± 0.52 vs. 6.62 ± 0.81 , $p < 0.001$; highest possible score = 7). A trend to mortality decrease was also observed (12.9% vs. 19.3%, $p = 0.13$). TELECare was cost-efficacious (TELECare/UCARE QALY 3.94 Euros/0.81Euros).

Conclusions: The addition of a telemonitoring system to an integrated care model in patients with AHLF decreases hospital and emergency admissions, improves functional status as well as HRQoL, and is cost-efficacious.

Keywords: Multimorbidity; chronic obstructive pulmonary disease; heart failure; polyopathy; telemonitoring.

Conflict of interest statement

Declaration of conflicting interestsThe authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS

Sage Journals



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

1

Review

J Multimorb Comorb

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. 2024 Jan 30:14:26335565231223350.

doi: 10.1177/26335565231223350. eCollection 2024 Jan-Dec.

Patterns of multimorbidity in primary care electronic health records: A systematic review

[Giorgi Beridze](#)¹, [Ahmad Abbadi](#)¹, [Joan Ars](#)^{1,2,3}, [Francesca Remelli](#)⁴, [Davide L Vetrano](#)^{1,5}, [Caterina Trevisan](#)^{1,4}, [Laura-Mónica Pérez](#)², [Juan A López-Rodríguez](#)^{6,7,8}, [Amaia Calderón-Larrañaga](#)^{1,5,8}

Affiliations expand

- PMID: 38298757
- PMCID: [PMC10829499](#)
- DOI: [10.1177/26335565231223350](#)

Abstract

Background: Multimorbidity, the coexistence of multiple chronic conditions in an individual, is a complex phenomenon that is highly prevalent in primary care settings, particularly in older individuals. This systematic review summarises the current evidence on multimorbidity patterns identified in primary care electronic health record (EHR) data.

Methods: Three databases were searched from inception to April 2022 to identify studies that derived original multimorbidity patterns from primary care EHR data. The quality of

the included studies was assessed using a modified version of the Newcastle-Ottawa Quality Assessment Scale.

Results: Sixteen studies were included in this systematic review, none of which was of low quality. Most studies were conducted in Spain, and only one study was conducted outside of Europe. The prevalence of multimorbidity (i.e. two or more conditions) ranged from 14.0% to 93.9%. The most common stratification variable in disease clustering models was sex, followed by age and calendar year. Despite significant heterogeneity in clustering methods and disease classification tools, consistent patterns of multimorbidity emerged. Mental health and cardiovascular patterns were identified in all studies, often in combination with diseases of other organ systems (e.g. neurological, endocrine).

Discussion: These findings emphasise the frequent coexistence of physical and mental health conditions in primary care, and provide useful information for the development of targeted preventive and management strategies. Future research should explore mechanisms underlying multimorbidity patterns, prioritise methodological harmonisation to facilitate the comparability of findings, and promote the use of EHR data globally to enhance our understanding of multimorbidity in more diverse populations.

Keywords: Multimorbidity; electronic health records; primary care.

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Conflict of interest statement

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

SUPPLEMENTARY INFO

Publication types [expand](#)

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2

Rheumatology (Oxford)

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. 2024 Jan 30:keae040.

Multimorbidity in Psoriasis as a Risk Factor for Psoriatic Arthritis: A Population-Based Study

[Paras Karmacharya](#)^{1,2}, [Rikesh Chakradhar](#)^{2,3}, [Cassandra A Hulshizer](#)⁴, [Tina M Gunderson](#)⁴, [Alexis Ogdie](#)⁵, [John M Davis III](#)², [Kerry Wright](#)², [Megha M Tollefson](#)⁶, [Alí Duarte-García](#)^{2,7}, [Delamo Bekele](#)², [Hilal Maradit-Kremers](#)⁴, [Cynthia S Crowson](#)^{2,4}

Affiliations expand

- PMID: 38291896
- DOI: [10.1093/rheumatology/keae040](https://doi.org/10.1093/rheumatology/keae040)

Abstract

Objectives: To examine multimorbidity in psoriasis and its association with the development of PsA.

Methods: A retrospective cohort study was performed using the Rochester Epidemiology Project. Population-based incidence (2000-2009) and prevalence (Jan 1, 2010) cohorts of psoriasis were identified by manual chart review. A cohort of individuals without psoriasis (comparators) were identified (1:1 matched on age, sex, and county). Morbidities were defined using ≥ 2 Clinical Classification Software codes ≥ 30 days apart within prior five years. PsA was defined using Classification of Psoriatic ARthritis (CASPAR) criteria. χ^2 and rank-sum tests were used to compare morbidities, and age-, sex-, and race-adjusted Cox models to examine the association of baseline morbidities in psoriasis with development of PsA.

Results: Among 817 incident psoriasis patients, the mean age was 45.2 years with 52.0% females, and 82.0% moderate/severe psoriasis. No multimorbidity differences were found between incident psoriasis patients and comparators. However, in the 1,088 prevalent psoriasis patients, multimorbidity was significantly more common compared with 1,086 comparators (OR : 1.35 and OR : 1.48 for ≥ 2 and ≥ 5 morbidities, respectively). Over a median 13.3-year follow-up, 23 patients (cumulative incidence: 2.9% by 15 years) developed PsA. Multimorbidity (≥ 2 morbidities) was associated with a 3-fold higher risk of developing PsA.

Conclusion: Multimorbidity was more common in the prevalent but not incident cohort of psoriasis compared with the general population, suggesting patients with psoriasis may experience accelerated development of multimorbidity. Moreover, multimorbidity at psoriasis onset significantly increased the risk of developing PsA, highlighting the importance of monitoring multimorbid psoriasis patients for the development of PsA.

Keywords: comorbidity; epidemiology; multimorbidity; psoriasis; psoriatic arthritis; risk factors.

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PLoS One



. 2024 Jan 30;19(1):e0297221.

doi: [10.1371/journal.pone.0297221](https://doi.org/10.1371/journal.pone.0297221). eCollection 2024.

[Prevalence and determinants of multimorbidity in the Canadian population](#)

[Xiang Xiao](#)¹, [Jeremy Beach](#)^{1,2}, [Ambikaipakan Senthilselvan](#)¹

Affiliations expand

- PMID: 38289936
- DOI: [10.1371/journal.pone.0297221](https://doi.org/10.1371/journal.pone.0297221)

Abstract

Multimorbidity, which is defined as having at least two or more chronic diseases concurrently, has been a rising public health issue in recent years in Canada and worldwide. The increasing prevalence of multimorbidity has posed a burden on the current health care system and quality of life for the Canadian population. There is a lack of up-to-date research on determinants of multimorbidity in the Canadian population, which is necessary to better understand and prevent multimorbidity. This study aims to determine the prevalence and risk factors of multimorbidity in the middle-aged and older Canadian adult population. Multivariable logistic regression analyses incorporating survey weights and biologically plausible interactions were conducted to examine the determinants of multimorbidity using data from the 2017/2018 Canadian Community Health Survey (CCHS). Of the 113,290 CCHS participants, 82,508 subjects who were aged 35 years and above were included in the study. The prevalence of multimorbidity was 22.20% (95% CI: 21.74%, 22.67%) and was greater for females. Multimorbidity was more likely in subjects who were obese, abstaining from alcohol, inactive, had a lower education level, widowed, divorced, or separated and was less likely among subjects living in Quebec. The protective effect of household income on multimorbidity decreased with age. Current smokers who reported extreme stress were more likely to have multimorbidity. Multimorbidity is associated with various determinants that need to be considered in chronic disease control and prevention. These results suggest that future research should focus not only on these determinants but also on the relationships between them. A future longitudinal study is required to provide causal evidence for the study findings.

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Conflict of interest statement

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

SUPPLEMENTARY INFO

MeSH termsexpand

[Proceed to details](#)

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Br J Gen Pract

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. 2024 Jan 25;74(739):e63-e70.

doi: 10.3399/BJGP.2023.0239. Print 2024 Feb.

Patients' experiences of GP consultations following the introduction of the new GP contract in Scotland: a cross-sectional survey

[Kieran D Sweeney](#)¹, [Eddie Donaghy](#)¹, [David Henderson](#)¹, [Huayi Huang](#)¹, [Harry Hx Wang](#)², [Andrew Thompson](#)³, [Bruce Guthrie](#)¹, [Stewart W Mercer](#)¹

Affiliations expand

- PMID: 38253549
- PMCID: [PMC10824335](#)
- DOI: [10.3399/BJGP.2023.0239](#)

Free PMC article

Abstract

Background: The new Scottish GP contract commenced in April 2018 with a stated aim of mitigating health inequalities.

Aim: To determine the health characteristics and experiences of patients consulting GPs in deprived urban (DU), affluent urban (AU), and remote and rural (RR) areas of Scotland.

Design and setting: In 2022, a postal survey of a random sample of adult patients from 12 practices who had consulted a GP within the previous 30 days was undertaken.

Method: Patient characteristics and consultation experiences in the three areas (DU, AU, RR) were evaluated using validated measures including the Consultation and Relational Empathy (CARE) Measure and Patient Enablement Instrument (PEI).

Results: In total, 1053 responses were received. In DU areas, multimorbidity was more common (78% versus 58% AU versus 68% RR, $P<0.01$), complex presentations (where the consultation addressed both psychosocial and physical problems) were more likely (16% versus 10% AU versus 11% RR, $P<0.05$), and more consultations were conducted by telephone (42% versus 31% AU versus 31% RR, $P<0.01$). Patients in DU areas reported lower satisfaction (82% DU completely, very, or fairly satisfied versus 90% AU versus 86% RR, $P<0.01$), lower perceived GP empathy (mean CARE score 38.9 versus 42.1 AU versus 40.1 RR, $P<0.05$), lower enablement (mean PEI score 2.6 versus 3.2 AU versus 2.8 RR, $P<0.01$), and less symptom improvement ($P<0.01$) than those in AU or RR areas. Face-to-face consultations were associated with significantly higher satisfaction, enablement, and perceived GP empathy than telephone consultations in RR areas (all $P<0.05$).

Conclusion: Four years after the start of the new GP contract in Scotland, patients' experiences of GP consultations suggest that the inverse care law persists.

Keywords: general practice; health inequalities; inverse care law; patient satisfaction; remote and rural; remote consultation, Scottish GP contract.

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Review

Epigenomics

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. 2024 Feb;16(3):189-202.

doi: 10.2217/epi-2023-0279. Epub 2023 Dec 19.

The epigenetics of frailty

[Madia Lozupone](#)¹, [Vincenzo Solfrizzi](#)², [Rodolfo Sardone](#)³, [Vittorio Dibello](#)^{2,4}, [Fabio Castellana](#)², [Roberta Zupo](#)², [Luisa Lampignano](#)⁵, [Ilaria Bortone](#)¹, [Antonio Daniele](#)^{6,7}, [Francesco Panza](#)²

Affiliations expand

- PMID: 38112012
- DOI: [10.2217/epi-2023-0279](https://doi.org/10.2217/epi-2023-0279)

Abstract

The conceptual change of frailty, from a physical to a biopsychosocial phenotype, expanded the field of frailty, including social and behavioral domains with critical interaction between different frailty models. Environmental exposures - including physical exercise, psychosocial factors and diet - may play a role in the frailty pathophysiology. Complex underlying mechanisms involve the progressive interactions of genetics with epigenetics and of multimorbidity with environmental factors. Here we review the literature on possible mechanisms explaining the association between epigenetic hallmarks (i.e., global DNA methylation, DNA methylation age acceleration and microRNAs) and frailty, considered as biomarkers of aging. Frailty could be considered the result of environmental epigenetic factors on biological aging, caused by conflicting DNA methylation age and chronological age.

Keywords: DNA methylation; diet; epigenetics; frailty; multimorbidity; psychosocial.

Plain language summary

The present narrative review describes the available evidence about epigenetic biological markers of frailty considered aging biomarkers, among others. Aging biomarkers can help in identifying frail and older individuals affected by multiple diseases to further increase the power of composite biomarker panels in the diagnostic and prognostic process. Among combined biomarkers, epigenetic regulators with different methylation patterns and small molecules such as microRNAs are included. Given that frailty involves multiple biological systems, it is possible to define it according to a novel model, including emotional and social domains and the influence of environmental factors, named the biopsychosocial phenotype. Different epigenetic biomarkers of frailty, from the first

generation to the more specific and recent second-generation epigenetic aging biomarkers, may account for factors linked to different cellular types, such as heterogeneity, and a reverse causation process that requires integration with gene expression. A better understanding of the relationships among frailty, multimorbidity and overall mortality will help us to identify the best therapeutic targets.

SUPPLEMENTARY INFO

Publication types, Grants and funding expand

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Review

Obes Rev

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. 2024 Feb;25(2):e13661.

doi: 10.1111/obr.13661. Epub 2023 Dec 17.

[Determinants of multimorbidity in low- and middle-income countries: A systematic review of longitudinal studies and discovery of evidence gaps](#)

[Michelle M C Tan](#)^{1,2,3,4}, [Matheus G Barbosa](#)⁵, [Pedro J M R Pinho](#)⁵, [Esubalew Assefa](#)^{6,7,8}, [Ana Á M Keinert](#)⁵, [Charlotte Hanlon](#)^{1,6,9,10}, [Barbara Barrett](#)¹, [Alexandru Dregan](#)¹, [Tin Tin Su](#)^{2,3,4}, [Devi Mohan](#)², [Cleusa Ferri](#)⁵, [Graciela Muniz-Terrera](#)^{11,12}, [Matthew Prina](#)¹; [MUTUAL consortium](#)

Affiliations expand

- PMID: 38105610
- DOI: [10.1111/obr.13661](https://doi.org/10.1111/obr.13661)

Abstract

Multimorbidity—the coexistence of at least two chronic health conditions within the same individual—is an important global health challenge. In high-income countries (HICs), multimorbidity is dominated by non-communicable diseases (NCDs); whereas, the situation may be different in low- and middle-income countries (LMICs), where chronic communicable diseases remain prominent. The aim of this systematic review was to identify determinants (including risk and protective factors) and potential mechanisms underlying multimorbidity from published longitudinal studies across diverse population-based or community-dwelling populations in LMICs. We systematically searched three electronic databases (Medline, Embase, and Global Health) using pre-defined search terms and selection criteria, complemented by hand-searching. All titles, abstracts, and full texts were independently screened by two reviewers from a pool of four researchers. Data extraction and reporting were according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Methodological quality and risk of bias assessment was performed using the Newcastle-Ottawa Scale for cohort studies. Data were summarized using narrative synthesis. The search yielded 1782 records. Of the 52 full-text articles included for review, 8 longitudinal population-based studies were included for final data synthesis. Almost all studies were conducted in Asia, with only one from South America and none from Africa. All studies were published in the last decade, with half published in the year 2021. The definitions used for multimorbidity were heterogeneous, including 3-16 chronic conditions per study. The leading chronic conditions were heart disease, stroke, and diabetes, and there was a lack of consideration of mental health conditions (MHCs), infectious diseases, and undernutrition. Prospectively evaluated determinants included socio-economic status, markers of social inequities, childhood adversity, lifestyle behaviors, obesity, dyslipidemia, and disability. This review revealed a paucity of evidence from LMICs and a geographical bias in the distribution of multimorbidity research. Longitudinal research into epidemiological aspects of multimorbidity is warranted to build up scientific evidence in regions beyond Asia. Such evidence can provide a detailed picture of disease development, with important implications for community, clinical, and interventions in LMICs. The heterogeneity in study designs, exposures, outcomes, and statistical methods observed in the present review calls for greater methodological standardisation while conducting epidemiological studies on multimorbidity. The limited evidence for MHCs, infectious diseases, and undernutrition as components of multimorbidity calls for a more comprehensive definition of multimorbidity globally.

Keywords: determinants; longitudinal studies; low- and middle-income countries; multimorbidity.

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Med Care

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. 2024 Feb 1;62(2):117-124.

doi: 10.1097/MLR.0000000000001962. Epub 2023 Dec 11.

[Combining the Hospital Frailty Risk Score With the Charlson and Elixhauser Multimorbidity Indices to Identify Older Patients at Risk of Poor Outcomes in Acute Care](#)

[Thomas Gilbert](#)^{1,2}, [Quentin Cordier](#)³, [Stéphanie Polazzi](#)^{2,3}, [Andrew Street](#)⁴, [Simon Conroy](#)⁵, [Antoine Duclos](#)^{2,3}

Affiliations [expand](#)

- PMID: 38079225
- PMCID: [PMC10773558](#)
- DOI: [10.1097/MLR.0000000000001962](#)

Free PMC article

Abstract

Objective: The Hospital Frailty Risk Score (HFRS) can be applied to medico-administrative datasets to determine the risks of 30-day mortality and long length of stay (LOS) in hospitalized older patients. The objective of this study was to compare the HFRS with Charlson and Elixhauser comorbidity indices, used separately or combined.

Design: A retrospective analysis of the French medical information database. The HFRS, Charlson index, and Elixhauser index were calculated for each patient based on the index stay and hospitalizations over the preceding 2 years. Different constructions of the HFRS were considered based on overlapping diagnostic codes with either Charlson or Elixhauser indices. We used mixed logistic regression models to investigate the association between outcomes, different constructions of HFRS, and associations with comorbidity indices.

Setting: 743 hospitals in France.

Participants: All patients aged 75 years or older hospitalized as an emergency in 2017 (n=1,042,234). Main outcome measures: 30-day inpatient mortality and LOS >10 days.

Results: The HFRS, Charlson, and Elixhauser indices were comparably associated with an increased risk of 30-day inpatient mortality and long LOS. The combined model with the highest c-statistic was obtained when associating the HFRS with standard adjustment and Charlson for 30-day inpatient mortality (adjusted c-statistics: HFRS=0.654; HFRS + Charlson = 0.676) and with Elixhauser for long LOS (adjusted c-statistics: HFRS= 0.672; HFRS + Elixhauser =0.698).

Conclusions: Combining comorbidity indices and HFRS may improve discrimination for predicting long LOS in hospitalized older people, but adds little to Charlson's 30-day inpatient mortality risk.

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Conflict of interest statement

The authors declare no conflict of interest.

- [51 references](#)
- [2 figures](#)

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Arch Gerontol Geriatr

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. 2024 Feb;117:105259.

doi: 10.1016/j.archger.2023.105259. Epub 2023 Nov 4.

[Associations of individual chronic diseases and multimorbidity with multidimensional frailty](#)

[Robbert J J Gobbens](#)¹, [Sandra Kuiper](#)², [Henriëtte Dijkshoorn](#)³, [Marcel A L M van Assen](#)⁴

Affiliations expand

- PMID: 37952423
- DOI: [10.1016/j.archger.2023.105259](https://doi.org/10.1016/j.archger.2023.105259)

Free article

Abstract

Objective: To examine the associations between individual chronic diseases and multidimensional frailty comprising physical, psychological, and social frailty.

Methods: Dutch individuals (N = 47,768) age ≥ 65 years completed a general health questionnaire sent by the Public Health Services (response rate of 58.5 %), including data concerning self-reported chronic diseases, multidimensional frailty, and sociodemographic characteristics. Multidimensional frailty was assessed with the Tilburg Frailty Indicator (TFI). Total frailty and each frailty domain were regressed onto background characteristics and the six most prevalent chronic diseases: diabetes mellitus, cancer, hypertension, arthrosis, urinary incontinence, and severe back disorder. Multimorbidity was defined as the presence of combinations of these six diseases.

Results: The six chronic diseases had medium and strong associations with total ($f^2 = 0.122$) and physical frailty ($f^2 = 0.170$), respectively, and weak associations with psychological ($f^2 = 0.023$) and social frailty ($f^2 = 0.008$). The effects of the six diseases on the frailty variables differed strongly across diseases, with urinary incontinence and severe back disorder impairing frailty most. No synergetic effects were found; the effects of a disease on frailty did not get noteworthy stronger in the presence of another disease.

Conclusions: Chronic diseases, in particular urinary incontinence and severe back disorder, were associated with frailty. We thus recommend assigning different weights to individual chronic diseases in a measure of multimorbidity that aims to examine effects of multimorbidity on multidimensional frailty. Because there were no synergetic effects of chronic diseases, the measure does not need to include interactions between diseases.

Keywords: Chronic diseases; Multidimensional frailty Tilburg frailty indicator; Multimorbidity.

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Conflict of interest statement

Declaration of Competing Interest The authors declare that they have no competing interests.

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Am J Prev Med



. 2024 Feb;66(2):324-332.

doi: 10.1016/j.amepre.2023.10.007. Epub 2023 Oct 7.

[Association of Stair Use With Risk of Major Chronic Diseases](#)

[Andrea Raisi](#)¹, [Jirapitcha Boonpor](#)², [Megan Breheny](#)³, [Jaime Vasquez](#)⁴, [Carlos Matus](#)⁵, [Ximena Diaz-Martinez](#)⁶, [Jill P Pell](#)⁷, [Frederick K Ho](#)⁷, [Carlos Celis-Morales](#)⁸

Affiliations expand

- PMID: 37813170
- DOI: [10.1016/j.amepre.2023.10.007](https://doi.org/10.1016/j.amepre.2023.10.007)

Free article

Abstract

Introduction: Physical inactivity is associated with a higher risk of chronic diseases. Regular stair use can contribute to increasing physical activity in the population. This study aimed to investigate the association between flights of stairs used daily at home and all-cause mortality and cause-specific incidence and mortality.

Methods: Of the 502,628 UK Biobank participants recruited between 2007 and 2010, 442,027 (mean age, 56±8 years) had available data and were included in the analyses conducted in 2023. Participants were categorized on the basis of flights of stairs climbed daily (1-5, 6-10, 11-15, >15). The disease-specific outcomes were cardiovascular disease, respiratory disease, cancer, type 2 diabetes, and all-cause dementia. Cox proportional hazard models, adjusted for sociodemographic, lifestyle, and health-related confounding

factors, were used to analyze the associations between stair use frequency and health outcomes.

Results: Participants were followed up for a median of 10.9 years. Climbing stairs >15 times per day was associated with a lower risk of 8 of the 9 outcomes analyzed than not using stairs. The magnitude of association ranged from 3% (95% CI=0.94, 0.99) lower risk for all-cause cancer to 51% (95% CI=0.39, 0.60) lower risk of chronic obstructive pulmonary disease. Findings were similar for mortality outcomes, with the hazard ratios ranging from 0.82 (95% CI=0.77, 0.87) for all-cause cancer to 0.46 (95% CI=0.23, 0.92) for chronic obstructive pulmonary disease mortality.

Conclusions: Stair use was associated with a lower risk of all-cause mortality and cause-specific incidence and mortality independent of confounding factors, including adiposity and multimorbidity.

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J Adv Nurs



. 2024 Feb;80(2):807-820.

doi: 10.1111/jan.15868. Epub 2023 Sep 20.

[Spanish version of the Self-Care of Chronic Illness Inventory: A validation](#)

study amongst community-dwelling older adults with chronic multimorbidity

[José Manuel Hernández-Padilla¹](#), [Iria Dobarrio-Sanz¹](#), [Cayetano Fernández-Sola^{1,2}](#), [María Del Mar Jiménez-Lasserrotte¹](#), [Matías Correa-Casado^{1,3}](#), [María Dolores Ruiz-Fernández¹](#)

Affiliations expand

- PMID: 37727056
- DOI: [10.1111/jan.15868](https://doi.org/10.1111/jan.15868)

Abstract

Aim: To psychometrically assess the Spanish version of the Self-Care of Chronic Illness Inventory (SC-CII-Sp) in community-dwelling older adults with chronic multimorbidity.

Design: A methodological study.

Method: A total of 1260 older adults participated in the study between May 2020 and February 2022. The data were analysed using SPSS Statistics® 26 and AMOS® 24. The items' content validity index and the Fleiss' kappa were calculated to assess the SC-CII-Sp's content validity. Convergent validity was assessed by calculating the Pearson correlation coefficient between the participants' scores on the SC-CII-Sp and their scores on the Spanish Chronic Disease Self-Efficacy scale (SCD-SE). Construct validity was tested by performing a confirmatory factor analysis (CFA). The SC-CII-Sp's reliability was tested by computing the Cronbach's alpha.

Results: The SC-CII-Sp showed good content and convergent validity. The CFA showed that the SC-CII-Sp has three sub-scales. The 8-item Self-Care Maintenance sub-scale has good internal consistency and is comprised of two dimensions: illness-related and health-promoting behaviour. The Self-Care Monitoring sub-scale had excellent internal consistency and its five loaded items belonged to a single dimension. The 6-item Self-Care Management sub-scale has adequate internal consistency and two dimensions: autonomous and consulting behaviour.

Conclusion: The Spanish version of SC-CII is a valid and reliable instrument to be used in the assessment of self-care behaviours amongst Spanish-speaking, community-dwelling older adults with chronic multimorbidity.

Implications for the profession: Nurses need valid and reliable tools to assess self-care behaviours in Spanish-speaking community-dwelling older adults with chronic multimorbidity. This study provides a 19-item tool that allows for the comprehensive evaluation of self-care behaviours in healthy and ill states.

Impact: Using the SC-CII-Sp in clinical or research settings could help nurses to examine the effects of different interventions on self-care behaviours amongst Spanish-speaking, community-dwelling older adults with chronic multimorbidity.

Patient or public contribution: None to be reported.

Keywords: chronic illness; comorbidity; elderly; multimorbidity; psychometrics; self-care; validity.

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- [53 references](#)

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J Gerontol A Biol Sci Med Sci

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. 2024 Feb 1;79(2):glad172.

doi: 10.1093/gerona/glad172.

[Association of a Blood-Based Aging Biomarker Index With Death and](#)

Chronic Disease: Cardiovascular Health Study

[Xiao Zhang](#)^{1,2}, [Jason L Sanders](#)³, [Robert M Boudreau](#)¹, [Alice M Arnold](#)⁴, [Jamie N Justice](#)⁵, [Mark A Espeland](#)⁵, [George A Kuchel](#)⁶, [Nir Barzilai](#)⁷, [Lewis H Kuller](#)¹, [Oscar L Lopez](#)⁸, [Stephen B Kritchevsky](#)⁵, [Anne B Newman](#)¹

Affiliations expand

- PMID: 37464278
- PMCID: PMC10799760 (available on 2024-07-19)
- DOI: [10.1093/gerona/glad172](https://doi.org/10.1093/gerona/glad172)

Abstract

Background: A goal of gerontology is to discover phenotypes that reflect biological aging distinct from disease pathogenesis. Biomarkers that are strongly associated with mortality could be used to define such a phenotype. However, the relation of such an index with multiple chronic conditions warrants further exploration.

Methods: A biomarker index (BI) was constructed in the Cardiovascular Health Study (N = 3 197), with a mean age of 74 years. The BI incorporated circulating levels of new biomarkers, including insulin-like growth factor-1, interleukin-6, amino-terminal pro-B-type natriuretic peptide, cystatin-C, C-reactive protein, tumor necrosis factor-alpha soluble receptor 1, fasting insulin, and fasting glucose, and was built based on their relationships with mortality. Cox proportional hazards models predicting a composite of death and chronic disease involving cardiovascular disease, dementia, and cancer were calculated with 6 years of follow-up.

Results: The hazard ratio (HR, 95% CI) for the composite outcome of death or chronic disease per category of BI was 1.65 (1.52, 1.80) and 1.75 (1.58, 1.94) in women and men, respectively. The HR (95% CI) per 5 years of age was 1.57 (1.48, 1.67) and 1.55 (1.44, 1.67) in women and men, respectively. Moreover, BI could attenuate the effect of age on the composite outcome by 16.7% and 22.0% in women and men, respectively.

Conclusions: Biomarker index was significantly and independently associated with a composite outcome of death and chronic disease, and attenuated the effect of age. The BI that is composed of plasma biomarkers may be a practical intermediate phenotype for interventions aiming to modify the course of aging.

Keywords: Aging; Biomarker; Multimorbidity.

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Conflict of interest statement

A.B.N, J.L.S., X.Z., R.M.B., A.M.A., J.N.J., M.A.E., G.A.K., N.B., L.H.K., O.L.L., S.B.K., report no conflict of interest. JLS is an employee of Vertex Pharmaceuticals.

- [67 references](#)

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Gerontologist

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. 2024 Feb 1;64(2):gnad066.

doi: 10.1093/geront/gnad066.

[Managing Complexity: Black Older Adults With Multimorbidity](#)

[Heather Fritz](#)¹, [Sage Chase](#)², [Lauren Morgan](#)², [Malcolm P Cutchin](#)¹

Affiliations [expand](#)

- PMID: 37350763
- DOI: [10.1093/geront/gnad066](https://doi.org/10.1093/geront/gnad066)

Abstract

Background and objectives: Black older adults have higher rates of multimorbidity and receive less effective multimorbidity support than their white counterparts. Yet little is known about the experiences of Black older adults with multimorbidity that may be at the heart of those disparities and which are central to interventions and improving care for this population. In this study, we aimed to conceptualize the multimorbidity management (MM) experience for Black older adults.

Research design and methods: As part of a larger study on Black older adults' multimorbidity and physician empathy, we conducted in-depth qualitative interviews with 30 Black older adults living in a large midwestern city in the United States aged 65 years and older with self-reported multimorbidity. We used grounded theory analysis to distill findings into a core conceptual category as well as component domains and dimensions.

Results: "Managing complexity" emerged as the core category to describe MM in our sample. Managing complexity included domains of "social context," "daily logistics," "care time," and "care roles."

Discussion and implications: We discuss how managing complexity is distinct from patient complexity and how it is related to cumulative inequality and precarity. Study findings have potential implications for intervention around provider education and empathy as well as for enabling agency of Black older adults with MM.

Keywords: Cumulative inequality/disadvantage; Empathy; Grounded theory; Health disparities; Precarity.

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J Pharm Pract



. 2024 Feb;37(1):35-46.

doi: 10.1177/08971900221117105. Epub 2022 Jul 21.

[Understanding the Extent of Polypharmacy and its Association With Health Service Utilization Among Persons With Cancer and Multimorbidity: A Population-Based Retrospective Cohort Study in Ontario, Canada](#)

[Tamara Dean](#)¹, [Anna Koné](#)¹, [Lynn Martin](#)¹, [Joshua Armstrong](#)¹, [Caroline Sirois](#)²

Affiliations expand

- PMID: 35861340
- PMCID: [PMC10804697](#)
- DOI: [10.1177/08971900221117105](#)

Abstract

Background: Cancer often co-occurs with other chronic conditions, which may result in polypharmacy. Polypharmacy is associated with adverse outcomes, including increased health service utilization. **Objectives:** This study examines the overall prevalence of polypharmacy (5 or more medications) among adults with cancer and multimorbidity, as well as the association of both minor polypharmacy (5-9 medications) and hyper-polypharmacy (10 or more medications) on high use of emergency room visits and hospitalizations, while controlling for age, sex, and type and stage of cancer. **Methods:** This retrospective longitudinal study used linked health administrative databases and included persons 18 years and older diagnosed with cancer between April 2010 and March 2013 in Ontario, Canada. Data on the number of health service utilizations at or above the 90th percentile (high users), was collected up to March 2014 and multivariate logistic regression was used to determine the impact of polypharmacy. **Results:** The prevalence of polypharmacy was 46% prior to cancer diagnosis, and 57% one year after diagnosis. Polypharmacy prior to and after cancer diagnosis increased with the level of multimorbidity, increasing age, but did not differ by sex. It was also highest in persons with lung cancer (52.4%) and those diagnosed with stage 4 cancer (51.3%). Minor polypharmacy increased the odds of being a high user of emergency rooms (1.16; 99% CI: 1.09-1.24) and hospitalizations (1.03; 0.98-1.09) and the odds of high use was greater with hyper-polypharmacy (1.41; 1.33-1.51) and (1.23; 1.17-1.29) respectively. **Conclusion:** Polypharmacy is highly prevalent and is associated with high health service utilization among adults with cancer and multimorbidity.

Keywords: adverse drug events; cancer; health service utilization; multimorbidity; polypharmacy.

Conflict of interest statement

Declaration of Conflicting InterestsThe author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

- [Cited by 1 article](#)
- [73 references](#)
- [1 figure](#)

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Clinical Trial

J Telemed Telecare

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. 2024 Feb;30(2):356-364.

doi: 10.1177/1357633X211059707. Epub 2021 Dec 1.

[A randomized clinical trial of home telemonitoring in patients with advanced heart and lung diseases](#)

[Carlos Hernandez-Quiles¹](#), [Máximo Bernabeu-Wittel¹](#), [Bosco Barón-Franco¹](#), [Alfonso Aguirre Palacios²](#), [M Rocio Garcia-Serrano¹](#), [Wilfredo Lopez-Jimeno³](#), [Jose Antonio Perez-de-Leon-Serrano⁴](#), [Jose Manuel Gómez-Barranco⁵](#), [Alberto Ruiz-Cantero⁶](#), [Manuel Quero-Haro³](#), [Elisa Cubiles-Montero⁷](#), [Salvador Vergara-Lopez²](#), [Manuel Ollero-Baturone¹](#)

Affiliations expand

- PMID: 34851202
- DOI: [10.1177/1357633X211059707](https://doi.org/10.1177/1357633X211059707)

Abstract

Brief summary: The addition of home monitoring to an integrated care model in patients with advanced chronic heart/lung diseases decreases mortality, hospital and emergency admissions, improves functional status, HRQoL, and is cost-effective.

Background: Telemonitoring is a promising implement for medicine, but its efficacy is unknown in patients with advanced heart and lung failure (AHLF).

Objective: To determine the efficacy of a telemonitoring system added to coordinated clinical care in patients with AHLF.

Design: Randomized phase 3 multicenter clinical trial with parallel groups in adult patients.

Participants: Five spanish centers including patients with AHLF at discharge or in out-patient clinics.

Intervention: Patients were randomly assigned to receive a remote bio-parameters telemonitoring system (TELECARE) or best usual care (UCARE). TELE CARE patients were provided with devices that collected symptoms and bio-parameters, and transferred them synchronously to a call-center, with a real-time health-care response.

Main measures: Primary end point was the need of admissions/emergency room visits at 45, 90, 180 days. Secondary end points included health care requirements, mortality, functional assessment, health related quality of life (HRQoL), perceived satisfaction, and cost-efficacy.

Results: 510 patients were included (54.5% women, median age 76.5 years; 63.1% suffered heart failure, 13.9% lung failure, and 22.9% both conditions). Clinical and functional features were comparable in both arms. TELE CARE globally needed less admissions with respect UCARE after 45 days of inclusion (35.4% vs. 46.9%, $p < 0.05$). This tendency was maintained in the subgroups of patients with multimorbidity (34.2% vs. 46.9%, $p < 0.05$), intermediate risk of mortality (36.5% vs. 51.1%, $p < 0.05$), and those included after hospital discharge (34.9% vs. 50.5%, $p < 0.01$). HRQoL significantly improved (TELE CARE/UCARE EuroQoL baseline of $56.2 \pm 18.2/55.1 \pm 19.7$, $p = 0.054$, and $64 \pm 19.9/56.3 \pm 21.6$; $p < 0.01$ at the end), and perceived satisfaction was also higher (6.77 ± 0.52 vs. 6.62 ± 0.81 , $p < 0.001$; highest possible score = 7). A trend to mortality decrease was also observed (12.9% vs. 19.3%, $p = 0.13$). TELE CARE was cost-efficacious (TELE CARE/UCARE QALY 3.94 Euros/0.81Euros).

Conclusions: The addition of a telemonitoring system to an integrated care model in patients with AHLF decreases hospital and emergency admissions, improves functional status as well as HRQoL, and is cost-efficacious.

Keywords: Multimorbidity; chronic obstructive pulmonary disease; heart failure; polypathology; telemonitoring.

Conflict of interest statement

Declaration of conflicting interestsThe authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

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BMC Pediatr

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. 2024 Feb 1;24(1):87.

doi: 10.1186/s12887-024-04560-1.

[Pulmonary function in children post - SARS-CoV-2 infection: a systematic review and meta-analysis](#)

[Elham Bakhtiari](#)¹, [Nasrin Moazzen](#)^{2,3}

Affiliations expand

- PMID: 38302891
- DOI: [10.1186/s12887-024-04560-1](https://doi.org/10.1186/s12887-024-04560-1)

Abstract

Objective: There are some concerns regarding long-term complications of COVID-19 in children. A systematic review and meta-analysis was performed evaluating the respiratory symptoms and pulmonary function, post-SARS-CoV-2 infection.

Methods: A systematic search was performed in databases up to 30 March 2023. Studies evaluating respiratory symptoms and pulmonary function after COVID-19 infection in children were selected. The major outcomes were the frequency of respiratory symptoms and the mean of spirometry parameters. A pooled mean with 95% confidence intervals (CIs) was calculated.

Results: A total of 8 articles with 386 patients were included in meta-analysis. Dyspnea, cough, exercise intolerance, and fatigue were the most common symptoms. The meta-mean of forced expiratory volume (FEV1) and forced vital capacity (FVC) was 101.72%, 95% CI= (98.72, 104.73) and 101.31%, 95% CI= (95.44, 107.18) respectively. The meta-mean of FEV1/FVC and Forced expiratory flow at 25 and 75% was 96.16%, 95% CI= (90.47, 101.85) and 105.05%, 95% CI= (101.74, 108.36) respectively. The meta-mean of diffusing capacity for carbon monoxide was 105.30%, 95%CI= (88.12, 122.49). There was no significant difference in spirometry parameters before and after bronchodilator inhalation.

Conclusions: Despite some clinical respiratory symptoms, meta-results showed no abnormality in pulmonary function in follow-up of children with SARS-CoV-2 infection. Disease severity and asthma background had not confounded this outcome.

Keywords: COVID-19; Child; Meta-analysis; Pulmonary function test; Systematic review.

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- [42 references](#)

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Telemed J E Health

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. 2024 Feb 2.

doi: 10.1089/tmj.2023.0631. Online ahead of print.

Telemedicine Use Among Adults with Asthma in the United States, 2021-2022

[Chun-Tse Hung](#)¹, [Yu-Chien Hung](#)²

Affiliations expand

- PMID: 38301206
- DOI: [10.1089/tmj.2023.0631](https://doi.org/10.1089/tmj.2023.0631)

Abstract

Introduction: While previous studies have mainly focused on the impact of telemedicine on asthma management, little is known about the disparities in the use of telemedicine among individuals with asthma. This study aimed to investigate the factors associated with telemedicine use among adults with asthma in the United States using a nationally representative survey. **Methods:** Data from the 2021 and 2022 National Health Interview Survey were used. The multivariable logistic regression model was conducted to identify the factors associated with telemedicine use among adults with asthma. **Results:** In 2021-2022, the prevalence of telemedicine use among adults with asthma was 47.7%. Females, individuals who were obese, current smokers, those with educational levels of college and higher, health insurance coverage, a usual place for care, a history of asthma attacks, and coronavirus disease 2019 were more likely to use telemedicine. Non-Hispanic blacks, residents in the Midwest, South, and nonmetropolitan areas were less likely to use telemedicine. **Conclusions:** Disparities in telemedicine use were found among several characteristics in adults with asthma. It is crucial to identify the vulnerable populations in accessing telemedicine and ensure equality in telemedicine use among patients with asthma.

Keywords: National Health Interview Survey; asthma; telecare; telehealth; telemedicine.

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Am J Respir Crit Care Med

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. 2024 Feb 1.

doi: 10.1164/rccm.202312-2259ED. Online ahead of print.

Novel Role of GSDMB/IFNG Axis in Childhood Asthma

[Anthony Bosco](#)¹

Affiliations expand

- PMID: 38300150
- DOI: [10.1164/rccm.202312-2259ED](https://doi.org/10.1164/rccm.202312-2259ED)

No abstract available

Keywords: asthma; gene expression; interferons; rhinovirus; wheezing.

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Ann Am Thorac Soc

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. 2024 Feb 1.

doi: 10.1513/AnnalsATS.202306-544RL. Online ahead of print.

Long-Term Dupilumab Efficacy on Severe Exacerbations and Lung Function in Patients With Type 2 Asthma

[Alberto Papi](#)¹, [Mario Castro](#)², [William W Busse](#)³, [David Langton](#)^{4,5}, [Stephanie Korn](#)⁶, [Changming Xia](#)⁷, [Xavier Soler](#)⁷, [Nami Pandit-Abid](#)⁸, [Amr Radwan](#)⁷, [Juby A Jacob-Nara](#)⁸, [Paul J Rowe](#)⁸, [Yamo Deniz](#)⁷

Affiliations expand

- PMID: 38300119
- DOI: [10.1513/AnnalsATS.202306-544RL](https://doi.org/10.1513/AnnalsATS.202306-544RL)

No abstract available

FULL TEXT LINKS



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Adv Ther

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. 2024 Feb 1.

doi: 10.1007/s12325-023-02774-w. Online ahead of print.

Effect of Individual Patient Characteristics and Treatment Choices on Reliever Medication Use in Moderate–Severe Asthma: A Poisson Analysis of Randomised Clinical Trials

[Sven C van Dijkman](#)¹, [Arzu Yorgancioğlu](#)², [Ian Pavord](#)³, [Guy Brusselle](#)⁴, [Paulo M Pitrez](#)⁵, [Sean Oosterholt](#)¹, [Sourabh Fumali](#)⁶, [Anurita Majumdar](#)⁷, [Oscar Della Pasqua](#)^{8,9}

Affiliations expand

- PMID: 38296921
- DOI: [10.1007/s12325-023-02774-w](https://doi.org/10.1007/s12325-023-02774-w)

Abstract

Introduction: Even though increased use of reliever medication, including short-acting beta agonists (SABA), provides an indirect measure of symptom worsening, there have been limited efforts to assess how different patterns of reliever use correlate with symptom control and future risk of exacerbations. Here, we evaluate the effect of individual baseline characteristics on reliever use in patients with moderate-severe asthma on regular maintenance therapy with fluticasone propionate (FP) or combination therapy with fluticasone propionate/salmeterol (FP/SAL) or budesonide/formoterol (BUD/FOR).

Methods: A drug-disease model describing the number of 24-h puffs and overnight occasions was developed with data from five clinical studies (N = 6212). The model was implemented using a nonlinear mixed effects approach and a Poisson function, considering clinical and demographic baseline characteristics. Goodness of fit and model predictive performance were assessed. Heatmaps were created to summarise the effect of concurrent baseline factors on reliever utilisation.

Results: The final model accurately described individual patterns of reliever use, which is significantly increased with time since diagnosis, smoking, higher Asthma Control Questionnaire (ACQ-5) score and higher body mass index (BMI) at baseline. Whilst the number of puffs decreases slowly after an initial drop relative to the start of treatment, exacerbating patients utilise significantly more reliever than those who do not exacerbate. The mean effect of FP/SAL (median dose: 250/50 µg BID) on reliever use was slightly

higher than that of BUD/FOR (median dose: 160/4.5 µg BID), i.e. a 75.3% vs 69.3% reduction in reliever use, respectively.

Conclusions: The availability of individual-level patient data in conjunction with a parametric approach enabled the characterisation of interindividual differences in the patterns of reliever use in patients with moderate-severe asthma. Taken together, individual demographic and clinical characteristics, as well as exacerbation history, can be considered an indicator of the degree of asthma control. High SABA reliever use suggests suboptimal clinical management of patients on maintenance therapy.

Keywords: Asthma symptom control; Drug-disease modelling; Exacerbation; ICS/LABA combination therapy; Inhaled corticosteroids; Reliever medication; Rescue medication; SABA; Short-acting beta agonists.

Plain language summary

In this study, we tried to understand how patients with moderate to severe asthma use their quick-relief inhalers (like albuterol), how it relates to their symptoms and the risk of having asthma attacks. To evaluate whether differences in reliever inhaler use between patients are associated with factors like smoking or their asthma symptoms at the beginning of treatment, we gathered data from five clinical studies (n = 6212 patients). These data allowed us to create a model that predicts how often patients use their reliever inhalers (expressed as number of puffs in 24 h) during maintenance therapy with inhaled corticosteroids alone or in combination with long-acting beta agonists. The final model showed that reliever inhaler use is higher in patients who have been diagnosed with asthma for > 10 years, are smokers, have higher asthma symptom scores, and are obese or extremely obese. Patients who had asthma attacks also used their reliever inhalers more often. In addition, to understand how relief inhalers are used in real-life situations, we also created heatmaps that include a wide range of patient characteristics. By using individual patient data together with this model, we have learned that smoking, asthma control, BMI, long history of asthma and previous asthma attacks significantly influence reliever use. This information can help physicians and healthcare professionals understand how well someone's asthma is managed. A patient who uses their reliever inhaler often is likely not to have their asthma well controlled by their regular medications.

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- [46 references](#)

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Allergol Int



. 2024 Jan 30:S1323-8930(24)00003-0.

doi: 10.1016/j.alit.2024.01.002. Online ahead of print.

[A systematic review and meta-analysis of macrolides in the management of adult patients with asthma](#)

[Hiroshi Ohnishi](#)¹, [Toshihito Otani](#)², [Yoshihiro Kanemitsu](#)³, [Tatsuya Nagano](#)⁴, [Johsuke Hara](#)⁵, [Masamitsu Eitoku](#)⁶

Affiliations expand

- PMID: 38296770
- DOI: [10.1016/j.alit.2024.01.002](https://doi.org/10.1016/j.alit.2024.01.002)

Abstract

Background: The efficacy of macrolides in the management of asthma has been studied but remains controversial. We conducted a systematic review and meta-analysis of macrolides in the management of adult patients with asthma.

Methods: Randomized controlled trials of macrolides used in adult patients with asthma were searched for in MEDLINE, EMBASE, PsycINFO, Cochrane Library, CINAHL, and Igaku Chuo Zasshi databases to evaluate the efficacy and safety of macrolides.

Results: Seventeen reports with macrolide treatment durations ranging from 6 to 48 weeks were included. Macrolides did not reduce exacerbations requiring hospitalization, severe exacerbations, or rescue use of short-acting beta-2 agonist inhalers; improve lung function; decrease peripheral blood or sputum neutrophil counts; or decrease fractional exhaled

nitric oxide compared to placebo. Macrolides statistically improved asthma control and quality of life but by less than the minimal clinically important difference. Peripheral blood eosinophil counts as well as serum and sputum eosinophilic cationic protein concentrations were significantly decreased with macrolides compared to placebo. The improvement of asthma symptoms and airway hyperresponsiveness varied by study. The safety profile of macrolides was comparable to that of placebo.

Conclusions: Although macrolides have some useful clinical aspects, there is not sufficient evidence to recommend their use in the management of adult patients with asthma.

Keywords: Azithromycin; Clarithromycin; Exacerbation; Macrolide; Roxithromycin.

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Curr Opin Allergy Clin Immunol

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. 2024 Jan 31.

doi: 10.1097/ACI.0000000000000971. Online ahead of print.

[Epidemiology of the relationship between allergic bronchopulmonary aspergillosis and asthma](#)

[Matteo Maule](#)^{1,2}, [Joana Vitte](#)^{3,4}, [Francesca Ambrosani](#)², [Marco Caminati](#)^{1,2}

Affiliations [expand](#)

- PMID: 38295145

- DOI: [10.1097/ACI.0000000000000971](https://doi.org/10.1097/ACI.0000000000000971)

Abstract

Purpose of review: Allergic bronchopulmonary aspergillosis (ABPA) can complicate the natural history of asthmatic patients, especially the more severe ones, worsening disease control and increasing the need for therapies, steroids in particular, and medical care. The aim of the present review is to summarize the latest epidemiological data related to the relationship between asthma and ABPA and to offer a summary of the most recent strategies that could potentially facilitate in the identification of ABPA in asthmatic patients.

Recent findings: In the last years, great efforts have been made by researchers worldwide to provide reliable epidemiological data on fungal sensitization and ABPA, especially in severe asthma patients both in adult and pediatric population. Data differ depending on the geographical area and population studied, but pooled data show a concerning 11% of severe asthma patients having ABPA and one out of four asthmatic patients being sensitized to fungi, *Aspergillus fumigatus* in particular.

Summary: Reliable epidemiological data and advances in the diagnostic procedures can facilitate the detection of ABPA among asthmatic patients, improving the management of a still under-recognized and challenging condition.

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Curr Opin Allergy Clin Immunol

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. 2024 Jan 31.

doi: 10.1097/ACI.0000000000000969. Online ahead of print.

Endotypes of occupational asthma

[Paola Mason](#)¹, [Marco Biasioli](#), [Filippo Liviero](#)

Affiliations expand

- PMID: 38295127
- DOI: [10.1097/ACI.0000000000000969](https://doi.org/10.1097/ACI.0000000000000969)

Abstract

Purpose of review: To describe recent findings in endotyping occupational asthma by addressing the role of specific biomarkers.

Recent findings: Studies on occupational asthma endotypes have focused on immune and inflammatory patterns associated with different occupational exposures to sensitizers or irritants. Sputum neutrophilia has been found in 58.5% patients with occupational asthma caused by high molecular weight (HMW) agents, and work-related dysphonia in patients with occupational asthma was described as associated with sputum neutrophilia too. Neutrophils have been associated also with irritant-induced asthma. The measurement of specific IgE has been confirmed as a valuable diagnostic tool in occupational asthma caused by HMW agents, on the contrary, for most low-molecular-weight agents, the presence of specific IgE has been proven in a small subset of affected workers. Fractional exhaled nitric oxide has been confirmed as a marker of type 2 (T2) inflammation in occupational asthma, mostly when induced by HMW agents (e.g. flour), and it has proved to be more sensitive than spirometry in measuring the efficacy of an intervention. MicroRNA-155 has been shown to contribute to airway inflammation in occupational asthma induced by toluene diisocyanate.

Summary: Occupational asthma is heterogeneous, thus monitoring multiple biomarkers is crucial to understand, which inflammatory responses are prevalent.

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- [34 references](#)

FULL TEXT LINKS

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Randomized Controlled Trial

PLoS One



. 2024 Jan 31;19(1):e0297035.

doi: 10.1371/journal.pone.0297035. eCollection 2024.

[Distress, multimorbidity, and complex multimorbidity among Chinese and Korean American older adults](#)

[Hannah Oh](#)^{1,2,3}, [Brittany N Morey](#)⁴, [Yuxi Shi](#)³, [Sunmin Lee](#)³

Affiliations expand

- PMID: 38295036
- DOI: [10.1371/journal.pone.0297035](https://doi.org/10.1371/journal.pone.0297035)

Free article

Abstract

Background: Studies suggest that distress is associated with various health conditions such as hypertension, asthma, diabetes, and coronary heart disease. However, only few studies focused on Asian Americans and little is known about the association with multiple comorbidity.

Methods: We conducted a cross-sectional analysis among 400 Chinese and Korean American participants (aged 50-75 years) of the STOP CRC randomized controlled trial. Perceived distress was assessed using the distress thermometer scale (range 0-10). Disease diagnosis was self-reported by the participants. Multimorbidity (MM) was defined as having ≥ 2 chronic conditions. Complex multimorbidity (CMM) was defined as having ≥ 3 of the following body system disorders: circulation disorder, endocrine-metabolic disorder, cancer, anxiety or depression, breathing problem, and other health problems. We performed logistic regression for CMM and Poisson regression with robust error variance for MM to estimate associations with distress, adjusting for potential confounders.

Results: The mean age was 58.4 years and mean distress score was 3.65. One-unit increase in distress score was associated with a 1.22-fold increase in the odds of having CMM (95% CI: 1.04-1.42). The magnitude of association slightly increased after additional adjustment for socioeconomic factors and health insurance status (OR: 1.29; 95% CI: 1.10-1.52). Higher distress score was positively associated with MM but the association was only marginally significant (PR: 1.04; 95% CI: 0.99-1.10), adjusting for socioeconomic factors and health insurance status.

Conclusion: Our data suggest that higher perceived distress may be associated with simultaneous dysfunction of multiple distinct body systems among Chinese and Korean American older adults.

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Conflict of interest statement

The authors have declared that no competing interests exist.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

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Biologics for asthma and risk of pneumonia

[Maria Gabriella Matera](#)¹, [Josuel Ora](#)², [Luigino Calzetta](#)³, [Paola Rogliani](#)^{2,4}, [Mario Cazzola](#)⁴

Affiliations expand

- PMID: 38294705
- DOI: [10.1080/02770903.2024.2311236](https://doi.org/10.1080/02770903.2024.2311236)

Abstract

Objective: Modification of the immune system with biologics raises theoretical concerns about the risk of infections but it is still unclear whether currently routinely used biologics in severe asthma may facilitate the development of pneumonia. Therefore, we aimed to determine whether omalizumab, mepolizumab, benralizumab, and dupilumab are associated with pneumonia in a real-world setting.

Methods: A retrospective disproportionality analysis was performed using adverse event (AE) reports submitted to FAERS from January 2020 to September 30, 2023. MedDRA was used to identify infections and infestations and then pneumonia cases. ROR and PRR were used to measure disproportionality.

Results: The percentage of reported cases of pneumonia compared to infections and infestations was highest for mepolizumab (36.8%), followed by omalizumab (32.6%), benralizumab (19.2%) and dupilumab (5.7%). We found a moderate or strong signal for increased risk of pneumonia with mepolizumab (ROR = 3.74, 95%CI 3.50-4.00), omalizumab (ROR = 3.26, 95%CI 3.06-3.49) and benralizumab (ROR = 2.65, 95%CI 2.49-2.83).

Conclusions: Mepolizumab, omalizumab and benralizumab, but not dupilumab, were associated with high odds of reporting pneumonia. Our results represent only potential associations between these biologics and pneumonia but not causality. The nature of the

FAERS database is such that the cause of the reported events is uncertain. Therefore, we can only roughly estimate the incidence of AEs by the signal strength (ROR value). Nevertheless, although causality could not be assessed, the signal from our study is interesting. We believe it deserves to be further substantiated by real-world studies with robust designs.

Keywords: Biologics; Food and Drug Administration Adverse Event Reporting System; infections; pneumonia; severe asthma.

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Semin Respir Crit Care Med

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. 2024 Feb;45(1):50-60.

doi: 10.1055/s-0043-1776998. Epub 2024 Jan 29.

[Radiological Diagnosis of Pulmonary Aspergillosis](#)

[François Laurent](#)¹, [Ilyes Benlala](#)^{1,2}, [Gael Dournes](#)^{1,2}

Affiliations expand

- PMID: 38286137
- DOI: [10.1055/s-0043-1776998](https://doi.org/10.1055/s-0043-1776998)

Abstract

Imaging plays an important role in the various forms of *Aspergillus*-related pulmonary disease. Depending on the immune status of the patient, three forms are described with distinct imaging characteristics: invasive aspergillosis affecting severely immunocompromised patients, chronic pulmonary aspergillosis affecting less severely immunocompromised patients but suffering from a pre-existing structural lung disease, and allergic bronchopulmonary aspergillosis related to respiratory exposure to *Aspergillus* species in patients with asthma and cystic fibrosis. Computed tomography (CT) has been demonstrated more sensitive and specific than chest radiographs and its use has largely contributed to the diagnosis, follow-up, and evaluation of treatment in each condition. In the last few decades, CT has also been described in the specific context of cystic fibrosis. In this particular clinical setting, magnetic resonance imaging and the recent developments in artificial intelligence have shown promising results.

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Conflict of interest statement

None declared.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



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Br J Gen Pract

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. 2024 Jan 25;74(739):86-89.

doi: 10.3399/bjgp24X736353. Print 2024 Feb.

A simple and effective evidence-based approach to asthma management: ICS-formoterol reliever therapy

[Mark L Levy](#)¹, [Richard Beasley](#)², [Bev Bostock](#)³, [Toby Gd Capstick](#)⁴, [Michael G Crooks](#)⁵, [Louise Fleming](#)⁶, [Daryl Freeman](#)⁷, [Viv Marsh](#)⁸, [Hitasha Rupani](#)⁹, [Andy Whittamore](#)¹⁰, [Peter J Barnes](#)¹¹, [Andrew Bush](#)¹²

Affiliations expand

- PMID: 38272684
- PMCID: [PMC10824346](#)
- DOI: [10.3399/bjgp24X736353](#)

Free PMC article

No abstract available

- [15 references](#)

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JAAPA

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. 2024 Feb 1;37(2):18-21.

doi: 10.1097/01.JAA.0000995684.53630.9a.

Which patients with COPD need an inhaled corticosteroid?

[Paul M Boylan](#)¹

Affiliations [expand](#)

- PMID: 38270653
- DOI: [10.1097/01.JAA.0000995684.53630.9a](https://doi.org/10.1097/01.JAA.0000995684.53630.9a)

Abstract

Inhaled bronchodilators are recommended to treat patients with any category of chronic obstructive pulmonary disease (COPD). Clinical practice guidelines conditionally recommend inhaled corticosteroids (ICS) for patients with eosinophilic COPD phenotypes, patients who experience hospitalizations for or frequent severe exacerbations of COPD, and patients with comorbid asthma. This article outlines which patients with COPD may benefit from an ICS.

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- [10 references](#)

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Letter from Australia

[Christine F McDonald](#)^{1,2,3}

Affiliations expand

- PMID: 38176687
- DOI: [10.1111/resp.14655](https://doi.org/10.1111/resp.14655)

Free article

No abstract available

Keywords: COPD; COVID-19; air pollution; asthma; lung cancer; tobacco.

- [4 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

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. 2023 Nov 20;3(1):100188.

doi: 10.1016/j.jacig.2023.100188. eCollection 2024 Feb.

Predictors of persistent poor control and validation of ASSESS score: Longitudinal 5-year follow-up of severe asthma cohort

[Pei Yee Tiew](#)^{1,2,3}, [Tunn Ren Tay](#)^{3,4}, [Wenjia Chen](#)⁵, [David B Price](#)^{6,7}, [Kheng Yong Ong](#)⁸, [Sanjay H Chotirmall](#)^{2,9}, [Mariko Siyue Koh](#)^{1,3}

Affiliations expand

- PMID: 38173699
- PMCID: [PMC10762473](#)
- DOI: [10.1016/j.jacig.2023.100188](#)

Free PMC article

Abstract

Background: Longitudinal predictors of persistent poor asthma control in severe asthma (SA) cohort remain scarce. The predictive value of the asthma severity scoring system (ASSESS) in the SA cohort outside the original study and in the Asian population is unknown.

Objective: We sought to determine the 5-year longitudinal outcome of patients with SA and validate the use of ASSESS score in predicting future outcomes in SA.

Methods: A prospective longitudinal observational study of patients with SA attending the multidisciplinary specialist SA clinic of the Singapore General Hospital from 2011 to 2021 was conducted. The number of exacerbations and asthma control test results were recorded yearly for 5 consecutive years. The ASSESS score was computed at baseline, and

the area under the receiver-operating characteristic curve for predicting persistent poor asthma control was generated.

Results: Of the 489 patients recruited into the study, 306 patients with 5-year follow-up data were analyzed. Seventy-three percent had type 2 inflammation with increased overall exacerbations over 5 years (rate ratio, 2.55; 95% CI, 1.31-4.96; $P = .006$) relative to non-type 2 SA. In the multivariate model, bronchiectasis, gastroesophageal reflux disease, and an asthma control test score of less than 20 were significantly associated with persistent poor asthma control over 5 years. ASSESS scores were good at predicting persistent poor asthma control with an area under the receiver-operating characteristic curve of 0.71 (95% CI, 0.57-0.84).

Conclusions: Bronchiectasis and gastroesophageal reflux disease are predictors for persistent poor asthma control and targeted traits for precision medicine in SA. The ASSESS score has a good prediction for persistent poor asthma control over 5 years.

Keywords: ASSESS score; Asian; Severe asthma; Singapore; type 2 asthma.

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- [42 references](#)
- [5 figures](#)

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J Allergy Clin Immunol Glob

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. 2023 Nov 22;3(1):100196.

doi: 10.1016/j.jacig.2023.100196. eCollection 2024 Feb.

Identification of biologic-responsive phenotypes in elderly people with eosinophilic asthma

[Olga Prokunina](#)¹, [Faoud T Ishmael](#)^{1,2}

Affiliations [expand](#)

- PMID: 38155862
- PMCID: [PMC10753088](#)
- DOI: [10.1016/j.jacig.2023.100196](#)

Free PMC article

Abstract

Background: Asthma in the elderly is not as well studied as in younger age groups. Age-related immunosenescence may result in diminished T_H2 inflammation, which raises a question about whether asthma in elderly patients responds well to anti-T_H2 asthma biologics.

Objective: We sought to determine whether asthma in elderly people has different T_H2 biomarkers and clinical features compared to nonelderly people, and if disease in the 2 age groups responds differently to anti-T_H2 biologics. We also aimed to identify treatment-responsive phenotypes with clinical and biomarker features that could be used to predict best response to biologics.

Methods: A retrospective chart review was conducted for 56 patients (30 elderly [age ≥62 years] and 26 nonelderly [ages 18-59 years] subjects) with severe asthma treated with dupilumab or benralizumab. Differences in baseline characteristics and response to treatment were analyzed. A hierarchical cluster analysis was also performed to identify treatment-responsive phenotypes. Significance threshold was $P = .05$ for all analyses.

Results: Baseline characteristics and T_H2 biomarkers (blood eosinophil level, total IgE, aeroallergen sensitivity) were similar between elderly and nonelderly subjects. The disease in both groups responded well to biologics (improvement in ACT scores, decreased exacerbations, decreased need for prednisone), but no significant response difference was found based on age groups. Cluster analysis identified 3 phenotypes, as follows: cluster 1,

youngest age, moderate eosinophil levels, lowest total IgE, few environmental allergies, and least response to biologics; cluster 2, intermediate age, lowest eosinophil level, highest IgE level, many environmental allergies, and an intermediate response to biologics; and cluster 3, oldest ages, highest eosinophil levels, high total IgE, few environmental allergies, and best response to biologics. These results confirm trends seen in another study utilizing cluster analyses showing that subjects with highest levels of IgE and eosinophils responded better to biologic treatment for asthma.

Conclusion: Elderly people with asthma should be considered for biologic therapy no differently than younger people. There may be subgroups of patients with different biologic responses based on age, allergenicity, IgE, and eosinophil levels that could be used to predict treatment response.

Keywords: Eosinophilic; asthma; benralizumab; biologic; dupilumab; elderly; phenotype.

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Conflict of interest statement

Disclosure of potential conflict of interest: The authors declare that they have no relevant conflicts of interest.

- [26 references](#)
- [2 figures](#)

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J Allergy Clin Immunol Glob

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. 2023 Nov 21;3(1):100194.

doi: 10.1016/j.jacig.2023.100194. eCollection 2024 Feb.

Sputum microbiota and inflammatory subtypes in asthma, COPD, and its overlap

[Chie Morimoto](#)¹, [Hisako Matsumoto](#)^{1,2}, [Natsuko Nomura](#)¹, [Hironobu Sunadome](#)^{1,3}, [Tadao Nagasaki](#)^{1,3}, [Susumu Sato](#)^{1,3}, [Atsuyasu Sato](#)¹, [Tsuyoshi Oguma](#)¹, [Isao Ito](#)¹, [Mariko Kogo](#)^{1,4}, [Keisuke Tomii](#)⁴, [Tomoko Tajiri](#)^{5,6}, [Kai Ohashi](#)⁷, [Takamitsu Tsukahara](#)⁷, [Toyohiro Hirai](#)¹

Affiliations expand

- PMID: 38155860
- PMCID: [PMC10753087](#)
- DOI: [10.1016/j.jacig.2023.100194](#)

Free PMC article

Abstract

Background: Airway microbiota in asthma-chronic obstructive pulmonary disease (COPD) overlap (ACO) remains unknown.

Objective: This study with ACO-enriched population aimed to clarify airway microbiota in ACO and in mixed granulocytic inflammation, often detected in ACO and chronic airway diseases.

Methods: This is an observational cross-sectional study. Patients with asthma with airflow limitation, ACO, and COPD were enrolled. Blood tests, pulmonary function, exhaled nitric oxide, and sputum tests were conducted. Sputum microbiota was evaluated using the 16S rRNA gene sequencing technique.

Results: A total of 112 patients (13 asthma, 67 ACO, and 32 COPD) were examined. There were no significant differences in α -diversity among the 3 diseases. The relative abundances of phylum Bacteroidetes, class Bacteroidia, and genus *Porphyromonas* were associated with decreased eosinophilic inflammation, and were significantly lower in ACO than in COPD. In a comparison of sputum inflammatory subtypes, the proportion of *Haemophilus* was numerically highest in the mixed granulocytic subtype, followed by the neutrophilic subtype. Likewise, the proportion of *Haemophilus* was the highest in the intermediate-high (2%-8%) sputum eosinophil group and lowest in the severe ($\geq 8\%$)

eosinophil group. Clinically, *Haemophilus* proportion was associated with sputum symptoms. Finally, the proportion of *Streptococcus* was associated with higher blood eosinophil counts and most severe airflow limitation.

Conclusions: Bacteroidia and *Porphyromonas* abundances in sputum are associated with the eosinophil-low phenotype, and ACO may be characterized by a decrease in these taxa. A mild elevation in sputum eosinophil does not preclude the presence of *Haemophilus*, which should be noted in the management of obstructive airway diseases.

Keywords: Asthma-COPD overlap; eosinophil-low; mixed granulocytic subtype; sputum microbiome.

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Conflict of interest statement

This study was funded by the 10.13039/100019085Japanese Respiratory Foundation and the 10.13039/501100001691Japan Society for the Promotion of Science (grant nos. 19K08649 and 22K08271). Disclosure of potential conflict of interest: The authors declare that they have no relevant conflicts of interest.

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[Review](#)

Respirology

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. 2024 Feb;29(2):94-104.

Mild asthma: Conundrums, complexities and the need to customize care

[Christine R Jenkins](#)¹

Affiliations expand

- PMID: 38143421
- DOI: [10.1111/resp.14646](https://doi.org/10.1111/resp.14646)

Free article

Abstract

Mild and moderate asthma cover a wide range of asthma presentations, phenotypes and symptom burden, and account for the majority of people with asthma worldwide. Mild asthma has been difficult to define because of its heterogeneity and wide spectrum of impact and outcomes, including being associated with severe exacerbations. Assessment of mild-moderate asthma is best made by combining asthma symptom control and exacerbation risk as the principle means by which to determine treatment needs. Incontrovertible evidence and guidelines support treatment initiation with anti-inflammatory medication, completely avoiding reliever-only treatment of mild asthma. Shared decision making with patients and a treatable traits approach will ensure that a holistic approach is taken to maximize patient outcomes. Most importantly, mild asthma should be regarded as a reversible, potentially curable condition, remaining in long-term remission through minimizing triggers and optimizing care.

Keywords: asthma; asthma control; mild asthma treatment.

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- [98 references](#)

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Observational Study

Pediatr Pulmonol

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. 2024 Feb;59(2):472-481.

doi: 10.1002/ppul.26779. Epub 2023 Dec 13.

Lung function assessment in children with Long-Covid syndrome

[Francesco Sansone](#)¹, [Paola Di Filippo](#)¹, [Daniele Russo](#)¹, [Laura Sgrazzutti](#)¹, [Sabrina Di Pillo](#)¹, [Francesco Chiarelli](#)¹, [Marina Attanasi](#)¹

Affiliations expand

- PMID: 38088231
- DOI: [10.1002/ppul.26779](https://doi.org/10.1002/ppul.26779)

Abstract

Introduction: A significant percentage of patients who survived the Coronavirus Infection Disease 2019 (COVID-19) showed persistent general and respiratory symptoms even months after recovery. This condition, called Post-Acute Sequelae of COVID-19 or Long-Covid syndrome (LCS), has been described also in children with positive history for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. Little is known about the

pathophysiologic mechanisms underlying this syndrome. The aim of this study was to investigate any difference between children with LCS and asymptomatic peers with previous COVID-19 in terms of lung function and lung ultrasound (LUS) patterns. Secondly, we tested associations between lung function abnormalities and LUS findings with Long-Covid.

Methods: We carried out a prospective, descriptive, observational study including 58 children aged 5-17 years: 28 with LCS compared to 30 asymptomatic children with previous COVID-19. We collected demographic data, history of asthma, allergy or smoke exposure, and acute COVID-19 symptoms. After a median period of 4.5 months (1%-95% range 2-21) since the infection, lung function was assessed by spirometry, body plethysmography, diffusion lung capacity for carbon monoxide (DLCO). Airways inflammation was investigated by fractional exhaled nitric oxide (FeNO). LUS was performed independently by two experienced clinicians.

Results: We found that children with LCS were older than controls (mean (SD) 12 (4.1) vs. 9.7 (2.6); $p = .04$). Children with LCS complained more frequently fatigue (46.4%), cough (17.9%), exercise intolerance (14.3%) and dyspnea (14.3%). Lung function was normal and similar between the two groups. The frequency of LUS abnormalities was similar between the two groups (43.3% children with LCS vs. 56.7% controls; $p = .436$). Children with LCS showed lower FeNO values (log difference -0.30 (CI 95% -0.50, -0.10)), but no association of LCS with a lower lung function and abnormal LUS findings was found.

Conclusions: LCS seems to be more frequent in older age children. Lung functional and structural abnormalities were not different between children with LCS and asymptomatic subjects with previous COVID-19. In addition, children with LCS showed lower FeNO values than controls, suggesting its potential role as a marker in LCS. However, further and larger studies are needed to confirm our findings.

Keywords: lung function; lung ultrasound; pediatric Long-Covid; post-acute sequelae of COVID-19.

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- [49 references](#)

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Int J Clin Pharmacol Ther

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. 2024 Feb;62(2):61-68.

doi: 10.5414/CP204495.

Super-responder and clinical remission in patients with asthma on treatment with single biologic therapy or cycling therapy using dupilumab in a real-world setting

[Satoshi Hamada](#), [Eriko Ogino](#), [Hirotaka Yasuba](#)

- PMID: 38085095
- DOI: [10.5414/CP204495](https://doi.org/10.5414/CP204495)

Abstract

Background: Regarding the therapeutic target in asthma, super-responder status (SR) is a status without systemic corticosteroids. Recently, clinical remission (CR), being a status of prolonged absence of asthma symptoms without systemic corticosteroids and/or normal pulmonary function, has gained attention as a new therapeutic target in asthma. Here, we examined the percentage and features of asthma patients on treatment with dupilumab showing SR and CR.

Materials and methods: 49 asthma patients used subcutaneous dupilumab for > 1 year between April 2019 and November 2022. The status of SR and CR for 1 year was evaluated. Patients without any maintenance oral corticosteroids and exacerbations requiring systemic corticosteroids were classified as SR. CR was defined using three definitions based

on changes in asthma symptoms and pulmonary function in addition to achieving SR for 1 year: CR without pulmonary function criteria (CR w/o F), fulfilment of asthma symptom improvement (asthma control questionnaire score < 0.75 or asthma control test score \geq 23); and CR-70 or CR-80, pulmonary function improvement (%forced expiratory volume in 1 second \geq 70% or \geq 80%) in addition to achieving CR w/o F, respectively.

Results: 38 (77.6%), 22 (44.9%), 13 (26.5%), 12 (24.5%) of patients had SR, CR w/o F, CR-70, and CR-80, respectively. Severe eosinophilic chronic rhinosinusitis was significantly more found in patients with SR and CR based on all three definitions than in those without.

Conclusion: This study identified the percentage and features of patients on treatment with dupilumab showing SR and CR in a real-world setting. The outcome beyond CR on biologic treatment should be clarified.

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Lancet Respir Med

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. 2024 Feb;12(2):96-99.

doi: 10.1016/S2213-2600(23)00415-0. Epub 2023 Dec 7.

[Pioneering a paradigm shift in asthma management: remission as a treatment goal](#)

[Marek Lommatzsch](#)¹, [Roland Buhl](#)², [G Walter Canonica](#)³, [Christian Domingo Ribas](#)⁴, [Hiroyuki Nagase](#)⁵, [Guy G Brusselle](#)⁶, [David J Jackson](#)⁷, [Ian D Pavord](#)⁸, [Stephanie Korn](#)⁹, [Katrin Milger](#)¹⁰, [Christian Taube](#)¹¹, [J Christian Virchow](#)¹²

Affiliations expand

- PMID: 38071999
- DOI: [10.1016/S2213-2600\(23\)00415-0](https://doi.org/10.1016/S2213-2600(23)00415-0)

No abstract available

Conflict of interest statement

ML reports grants for research or clinical trials, paid to his institution, from AstraZeneca, Deutsche Forschungsgemeinschaft (DFG), and GSK; and consulting fees, travel expenses, or honoraria for lectures from ALK, Allergopharma, AstraZeneca, Berlin-Chemie, Boehringer Ingelheim, Chiesi, GSK, HAL Allergy, Leti, Novartis, MSD, Sanofi, Stallergenes, and Teva. RB reports grants, paid to his institution, from Boehringer Ingelheim, GSK, Novartis, and Roche; speaker fees from AstraZeneca, Berlin-Chemie, Boehringer Ingelheim, Chiesi, Cipla, GSK, Novartis, Sanofi, Roche, and Teva; and payment for advisory board participation from AstraZeneca, Berlin-Chemie, Boehringer Ingelheim, Chiesi, Cipla, GSK, Novartis, Sanofi, Roche, and Teva. GWC reports research or clinical trial grants, paid to his institution, from Menarini, AstraZeneca, GSK, Sandi, and Genzyme; and personal fees for lectures and advisory board participation from Menarini, AstraZeneca, Chiesi, Faes Farma, Genentech, Guidotti-Malesci, GSK, HAL Allergy, Innovacaremed, Novartis, OM Pharma, Red Maple, Sanofi-Aventis, Sanofi-Genzyme, Stallergenes, and Uriach Pharma. CDR reports funding for travel and speaker fees from Novartis, Sanofi, GSK, TEVA, MSD, Almirall, AstraZeneca, Chiesi, Menarini, Stallergenes, ALK-Abello, Allergy Therapeutics, HAL Allergy, Immunotek, and Royal. HN reports grants from GSK and personal fees from AstraZeneca, GSK, Kyorin Pharmaceutical, Novartis, and Sanofi; he is a scientific advisor for GSK. GGB reports personal fees for advisory board participation and lectures from AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Novartis, and Sanofi, outside of the submitted work. DJJ has received an investigator-initiated research grant from AstraZeneca and reports fees for advisory board participation and lectures from AstraZeneca, Sanofi, and GSK. In the past 5 years, IDP has received honoraria for speaking at sponsored meetings from AstraZeneca, Aerocrine, Chiesi, Sanofi/Regeneron, Menarini, and GSK; payments for organising educational events from AstraZeneca, GSK, Sanofi/Regeneron, and Teva; honoraria for advisory panel participation from Genentech, Sanofi/Regeneron, AstraZeneca, Boehringer Ingelheim, GSK, Novartis, Teva, Merck, Circassia, Chiesi, and Knopp; and sponsorship to attend international scientific meetings from GSK, AstraZeneca, Teva, and Chiesi. SK reports consulting fees and speaker fees from AstraZeneca, GSK, Chiesi, Sanofi, and Novartis. KM reports consulting fees and speaker fees from AstraZeneca, GSK, and Sanofi; and speaker fees from Chiesi and Novartis. JCV reports research grants from DFG, Land Mecklenburg-

Vorpommern, GSK, and MSD; he has given independent lectures for and received honoraria from AstraZeneca, Avontec, Bayer, Bencard, Bionorica, Boehringer Ingelheim, Chiesi, Essex/Schering-Plough, GSK, Janssen-Cilag, Lupin, Leti, MEDA, Merck, MSD, Mundipharma, Novartis, Nycomed/Altana, Pfizer, Regeneron, Revotar, Sandoz-Hexal, Sanofi-Aventis, Stallergens, TEVA, UCB/Schwarz-Pharma, and Zydus/Cadila; and participated on advisory boards and provided independent advice for AstraZeneca, Avontec, Bayer, Bencard, Boehringer Ingelheim, Chiesi, Essex/Schering-Plough, GSK, Janssen-Cilag, MEDA, MSD, Mundipharma, Novartis, Regeneron, Revotar, Roche, Sanofi-Aventis, Sandoz-Hexal, TEVA, and UCB/Schwarz-Pharma. CT declares no competing interests.

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Cytokine

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. 2024 Feb:174:156470.

doi: 10.1016/j.cyto.2023.156470. Epub 2023 Dec 9.

[The causality between systemic inflammatory regulators and chronic respiratory diseases: A bidirectional Mendelian-randomization study](#)

[Guanyu Jiang](#)¹, [Weici Liu](#)¹, [Xiaokun Wang](#)², [Zifeng Wang](#)³, [Chenghu Song](#)¹, [Ruo Chen](#)¹, [Zhao He](#)¹, [Huixing Li](#)¹, [Mingfeng Zheng](#)⁴, [Wenjun Mao](#)⁵

Affiliations expand

- PMID: 38071841
- DOI: [10.1016/j.cyto.2023.156470](https://doi.org/10.1016/j.cyto.2023.156470)

Abstract

Introduction: Accumulative evidence suggests the associations between systemic inflammatory regulators and chronic respiratory diseases (CRDs). However, the intrinsic causation remains implicit. Therefore, this study aimed to examine causative associations by mendelian randomization (MR) and to identify valuable active factors.

Methods: Based on data from the GWAS database, we performed MR analyses of 41 serum cytokines from 8,293 Finnish and European descent cohorts from GBMI and UKBB for five major CRDs. We mainly applied inverse variance weighted regression, supplemented by MR-Egger regression, weighted median, maximum likelihood, weighted mode, and simple mode algorithms. Moreover, sensitivity analyses were conducted using Cochrane's Q test, MR-Egger intercept, MR-PRESSO Global test and MR-Steiger filtering. Eventually, the consistency of MR results was assessed by leave-one-out.

Results: Our results suggest that 12 genetically predicted systemic inflammatory regulators probably participate in the progression of CRDs, including four risk factors (IL-1RA, IL-4, MIP-1A, PDGF-BB) and one protective factor (IL-6) in IPF, two protective factors (SCF, SDF-1A) in COPD, and two protective factors (SCF, SDF-1A) in asthma, two protective factors (GROA, IL-2RA) were also included in asthma, whereas only one factor (HGF) was protective against bronchiectasis. Additionally, two protective factors (FGF-BASIC, G-CSF) were identified in sarcoidosis. Sensitivity analyses showed no horizontal pleiotropy and significant heterogeneity. Finally, based on the findings of inverse MR analysis, no inverse causal association was uncovered, confirming the robustness of results.

Conclusion: Our study unearths potential associations between systemic inflammatory modulators and common CRDs, providing new insights for inflammation-mediated CRD prevention and therapeutic approaches.

Keywords: Chronic respiratory diseases; Cytokines; Genome-wide association study; Inflammation; Mendelian randomization.

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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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MeSH termsexpand

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Review

Brain Behav Immun

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. 2024 Feb;116:218-228.

doi: 10.1016/j.bbi.2023.12.003. Epub 2023 Dec 8.

[The influence of asthma on neuroinflammation and neurodevelopment: From epidemiology to basic models](#)

[Juan M Tamayo](#)¹, [Hadley C Osman](#)¹, [Jared J Schwartz](#)², [Paul Ashwood](#)³

Affiliations expand

- PMID: 38070621
- DOI: [10.1016/j.bbi.2023.12.003](https://doi.org/10.1016/j.bbi.2023.12.003)

Free article

Abstract

Asthma is a highly heterogeneous inflammatory disease that can have a significant effect on both the respiratory system and central nervous system. Population based studies and animal models have found asthma to be comorbid with a number of neurological conditions, including depression, anxiety, and neurodevelopmental disorders. In addition, maternal asthma during pregnancy has been associated with neurodevelopmental disorders in the offspring, such as autism spectrum disorders and attention deficit hyperactivity disorder. In this article, we review the most current epidemiological studies of asthma that identify links to neurological conditions, both as it relates to individuals that suffer from asthma and the impacts asthma during pregnancy may have on offspring neurodevelopment. We also discuss the relevant animal models investigating these links, address the gaps in knowledge, and explore the potential future directions in this field.

Keywords: Asthma/Allergy; Autism spectrum disorder (ASD); Cytokines; MAA; Maternal asthma and allergy; Maternal immune activation (MIA); Neurodevelopment; Neuroinflammation; Schizophrenia; neurodevelopmental disorders (NDD).

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Editorial

Am J Respir Crit Care Med

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. 2024 Feb 1;209(3):233-235.

doi: 10.1164/rccm.202311-2103ED.

Do Comorbidities Influence the Response to Biologics in Severe Asthma?

[Corrado Pelaia](#)¹, [Girolamo Pelaia](#)², [William Busse](#)³

Affiliations expand

- PMID: 38064716
- DOI: [10.1164/rccm.202311-2103ED](https://doi.org/10.1164/rccm.202311-2103ED)

No abstract available

Comment on

- [Association Between T2-related Comorbidities and Effectiveness of Biologics in Severe Asthma.](#)

Wechsler ME, Scelo G, Larenas-Linnemann DES, Torres-Duque CA, Maspero J, Tran TN, Murray RB, Martin N, Menzies-Gow AN, Hew M, Peters MJ, Gibson PG, Christoff GC, Popov TA, Côté A, Bergeron C, Dorscheid D, FitzGerald JM, Chapman KR, Boulet LP, Bhutani M, Sadatsafavi M, Jiménez-Maldonado L, Duran-Silva M, Rodriguez B, Celis-Preciado CA, Cano-Rosales DJ, Solarte I, Fernandez-Sanchez MJ, Parada-Tovar P, von Bülow A, Bjerrum AS, Ulrik CS, Assing KD, Rasmussen LM, Hansen S, Altraja A, Bourdin A, Taille C, Charriot J, Roche N, Papaioannou AI, Kostikas K, Papadopoulos NG, Salvi S, Long D, Mitchell PD, Costello R, Sirena C, Cardini C, Heffler E, Puggioni F, Canonica GW, Guida G, Iwanaga T, Al-Ahmad M, García U, Kuna P, Fonseca JA, Al-Lehebi R, Koh MS, Rhee CK, Cosio BG, Perez de Llano L, Perng DS, Huang EW, Wang HC, Tsai MJ, Mahboub B, Salameh LIJ, Jackson DJ, Busby J, Heaney LG, Pfeffer PE, Goddard AG, Wang E, Hoyte FCL, Chapman NM, Katial R, Carter V, Bulathsinhala L, Eleangovan N, Ariti C, Lyu J, Porsbjerg C, Price DB. *Am J Respir Crit Care Med.* 2024 Feb 1;209(3):262-272. doi: 10.1164/rccm.202305-0808OC. PMID: 38016003

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Ann Am Thorac Soc

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. 2024 Feb;21(2):279-286.

doi: 10.1513/AnnalsATS.202306-504OC.

[Association of Prenatal Maternal and Infant Vitamin D Supplementation with Offspring Asthma](#)

[Lourdes G Ramirez](#)^{1,2}, [Kathleen Lee-Sarwar](#)^{1,2}, [Rachel S Kelly](#)¹, [Scott T Weiss](#)¹, [Augusto A Litonjua](#)³

Affiliations expand

- PMID: 38054759
- DOI: [10.1513/AnnalsATS.202306-504OC](https://doi.org/10.1513/AnnalsATS.202306-504OC)

Abstract

Rationale: The role and timing of vitamin D supplementation in the prevention of asthma has not been fully elucidated. **Objective:** To describe the association between prenatal and postnatal vitamin D with offspring asthma outcomes in participants of the Vitamin D Antenatal Asthma Reduction Trial. **Methods:** We classified 748 mother-offspring pairs into four groups based on the mother's randomization to receive high-dose versus low-dose (4,400 IU vs. 400 IU) vitamin D supplementation during pregnancy and the offspring parent-reported high-dose versus low-dose (≥ 400 IU vs. < 400 IU) vitamin D supplementation as estimated by intake of vitamin D drops or infant formula. We used logistic regression to test the association of the four vitamin D exposure groups-"mother-

low/infant-low (reference)," "mother-high/infant-high," "mother-high/infant-low," and "mother-low/infant-high"-with offspring asthma and/or recurrent wheeze at age 3 years, active asthma at age 6 years, and atopic asthma at age 6 years. **Results:** The risk of asthma and/or recurrent wheeze at 3 years was lowest in the mother-high/infant-low group (adjusted odds ratio vs. mother-low/infant-low, 0.39; 95% confidence interval, 0.16-0.88, $P = 0.03$). When stratifying by history of exclusive breastfeeding until age 4 months, the protective effect in the mother-high/infant-low group was seen only among exclusively breastfed infants (odds ratio vs. mother-low/infant-low, 0.19; 95% confidence interval, 0.04-0.68; $P = 0.02$). We did not observe any significant associations with active or atopic asthma at age 6 years. **Conclusions:** We observe that high-dose prenatal and low-dose postnatal vitamin D supplementation may be associated with reduced offspring asthma or recurrent wheeze by age 3 years, but this association may be confounded by the protective effect of breastfeeding.

Keywords: asthma; atopy; cholecalciferol; vitamin D; wheezing.

SUPPLEMENTARY INFO

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[Review](#)

Curr Opin Allergy Clin Immunol

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. 2024 Feb 1;24(1):9-14.

doi: 10.1097/ACI.0000000000000960. Epub 2023 Dec 1.

Upper and lower airway interactions in children

[Fernando M de Benedictis](#)¹

Affiliations expand

- PMID: 38037885
- DOI: [10.1097/ACI.0000000000000960](https://doi.org/10.1097/ACI.0000000000000960)

Abstract

Purpose of review: The aim of the present review was to highlight the interactions between rhinitis, rhinosinusitis and asthma in children and to discuss the most relevant scientific progresses in the pathophysiology and treatment of these combined conditions.

Recent findings: Advances in understanding the mechanisms underlying the relationship between upper and lower airways have provided valuable insights into the role of eosinophils in the pathophysiology of inflammatory events and have further delineated the concept of united airway disease. Studies addressed to evaluate the burden of sinonasal system on asthma outcomes showed a parallel severity of upper and lower airway diseases. Histopathology of sinonasal tissue in patients with chronic rhinosinusitis is different in adults and children. Targeted administration of biological agents represents an effective treatment in patients with severe uncontrolled asthma, but specific trials are awaited in children with chronic sinonasal disease.

Summary: Allergic rhinitis and rhinosinusitis are important comorbidities in patients with asthma. Improved knowledge of pathogenic mechanisms of inflammation and remodelling in the sinonasal system and the lung has led to new therapeutic approaches in patients with united airway disease and opened interesting perspectives for personalized drug therapies.

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Am J Respir Crit Care Med

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. 2024 Feb 1;209(3):262-272.

doi: 10.1164/rccm.202305-0808OC.

Association Between T2-related Comorbidities and Effectiveness of Biologics in Severe Asthma

[Michael E Wechsler](#)¹, [Ghislaine Scelo](#)^{2,3}, [Désirée E S Larenas-Linnemann](#)⁴, [Carlos A Torres-Duque](#)^{5,6}, [Jorge Maspero](#)⁷, [Trung N Tran](#)⁸, [Ruth B Murray](#)³, [Neil Martin](#)^{8,9}, [Andrew N Menzies-Gow](#)^{10,11}, [Mark Hew](#)^{12,13}, [Matthew J Peters](#)¹⁴, [Peter G Gibson](#)^{15,16}, [George C Christoff](#)¹⁷, [Todor A Popov](#)¹⁸, [Andréanne Côté](#)¹⁹, [Celine Bergeron](#)²⁰, [Delbert Dorscheid](#)²¹, [J Mark FitzGerald](#)²², [Kenneth R Chapman](#)²³, [Louis Philippe Boulet](#)²⁴, [Mohit Bhutani](#)²⁵, [Mohsen Sadatsafavi](#)²⁶, [Libardo Jiménez-Maldonado](#)²⁷, [Mauricio Duran-Silva](#)²⁷, [Bellanid Rodriguez](#)²⁸, [Carlos Andres Celis-Preciado](#)^{29,30}, [Diana Jimena Cano-Rosales](#)²⁸, [Ivan Solarte](#)^{29,30}, [Maria Jose Fernandez-Sanchez](#)^{29,30}, [Patricia Parada-Tovar](#)⁵, [Anna von Bülow](#)³¹, [Anne Sofie Bjerrum](#)³², [Charlotte S Ulrik](#)³³, [Karin Dahl Assing](#)³⁴, [Linda Makowska Rasmussen](#)³⁵, [Susanne Hansen](#)^{36,37}, [Alan Altraja](#)³⁸, [Arnaud Bourdin](#)³⁹, [Camille Taille](#)⁴⁰, [Jeremy Charriot](#)³⁹, [Nicolas Roche](#)⁴¹, [Andriana I Papaioannou](#)⁴², [Konstantinos Kostikas](#)⁴³, [Nikolaos G Papadopoulos](#)^{44,45}, [Sundeep Salvi](#)⁴⁶, [Deirdre Long](#)⁴⁷, [Patrick D Mitchell](#)⁴⁸, [Richard Costello](#)^{49,50}, [Concetta Sirena](#)⁵¹, [Cristina Cardini](#)⁵¹, [Enrico Heffler](#)^{52,53}, [Francesca Puggioni](#)⁵², [Giorgio Walter Canonica](#)^{52,53}, [Giuseppe Guida](#)⁵⁴, [Takashi Iwanaga](#)⁵⁵, [Mona Al-Ahmad](#)⁵⁶, [Ulises García](#)⁵⁷, [Piotr Kuna](#)⁵⁸, [João A Fonseca](#)^{59,60,61}, [Riyad Al-Lehebi](#)^{62,63}, [Mariko S Koh](#)⁶⁴, [Chin Kook Rhee](#)⁶⁵, [Borja G Cosio](#)⁶⁶, [Luis Perez de Llano](#)⁶⁷, [Diahn-Warng Steve Perng](#)^{68,69}, [Erick Wan-Chun Huang](#)⁷⁰, [Hao-Chien Wang](#)⁷¹, [Ming-Ju Tsai](#)^{72,73}, [Bassam Mahboub](#)⁷⁴, [Laila Ibraheem Jaber Salameh](#)^{74,75}, [David J Jackson](#)⁷⁶, [John Busby](#)⁷⁷, [Liam G Heaney](#)⁷⁸, [Paul E Pfeffer](#)^{79,80}, [Amanda Grippen Goddard](#)⁸¹, [Eileen Wang](#)⁸², [Flavia C L Hoyte](#)⁸², [Nicholas M Chapman](#)⁸³, [Rohit Katial](#)⁸², [Victoria Carter](#)^{2,3}, [Lakmini Bulathsinhala](#)^{2,3}, [Neva Eleangovan](#)^{2,3}, [Con Ariti](#)^{2,3}, [Juntao Lyu](#)⁸⁴, [Celeste Porsbjerg](#)⁸⁵, [David B Price](#)^{2,3,86}

Affiliations expand

- PMID: 38016003

- DOI: [10.1164/rccm.202305-0808OC](https://doi.org/10.1164/rccm.202305-0808OC)

Abstract

Rationale: Previous studies investigating the impact of comorbidities on the effectiveness of biologic agents have been relatively small and of short duration and have not compared classes of biologic agents. **Objectives:** To determine the association between type 2-related comorbidities and biologic agent effectiveness in adults with severe asthma (SA). **Methods:** This cohort study used International Severe Asthma Registry data from 21 countries (2017-2022) to quantify changes in four outcomes before and after biologic therapy-annual asthma exacerbation rate, FEV₁% predicted, asthma control, and long-term oral corticosteroid daily dose-in patients with or without allergic rhinitis, chronic rhinosinusitis (CRS) with or without nasal polyps (NPs), NPs, or eczema/atopic dermatitis. **Measurements and Main Results:** Of 1,765 patients, 1,257, 421, and 87 initiated anti-IL-5/5 receptor, anti-IgE, and anti-IL-4/13 therapies, respectively. In general, pre- versus post-biologic therapy improvements were noted in all four asthma outcomes assessed, irrespective of comorbidity status. However, patients with comorbid CRS with or without NPs experienced 23% fewer exacerbations per year (95% CI, 10-35%; $P < 0.001$) and had 59% higher odds of better post-biologic therapy asthma control (95% CI, 26-102%; $P < 0.001$) than those without CRS with or without NPs. Similar estimates were noted for those with comorbid NPs: 22% fewer exacerbations and 56% higher odds of better post-biologic therapy control. Patients with SA and CRS with or without NPs had an additional FEV₁% predicted improvement of 3.2% (95% CI, 1.0-5.3; $P = 0.004$), a trend that was also noted in those with comorbid NPs. The presence of allergic rhinitis or atopic dermatitis was not associated with post-biologic therapy effect for any outcome assessed. **Conclusions:** These findings highlight the importance of systematic comorbidity evaluation. The presence of CRS with or without NPs or NPs alone may be considered a predictor of the effectiveness of biologic agents in patients with SA.

Keywords: allergic rhinitis; chronic rhinosinusitis; nasal polyposis.

Comment in

- [Do Comorbidities Influence the Response to Biologics in Severe Asthma?](#)
Pelaia C, Pelaia G, Busse W. *Am J Respir Crit Care Med.* 2024 Feb 1;209(3):233-235.
doi: [10.1164/rccm.202311-2103ED](https://doi.org/10.1164/rccm.202311-2103ED). PMID: 38064716 No abstract available.

SUPPLEMENTARY INFO

MeSH terms, Substances, Grants and fundingexpand

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Pediatr Pulmonol

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. 2024 Feb;59(2):408-416.

doi: 10.1002/ppul.26764. Epub 2023 Nov 22.

[Healthcare costs and resources utilization in children with difficult-to-control asthma treated with biologic therapies: A population-based cohort study](#)

[Matteo Monzio Compagnoni](#)^{1,2}, [Claudia Conflitti](#)^{1,2}, [Veronica Capuano](#)^{3,4}, [Giulia Bonaiti](#)⁴, [Matteo Franchi](#)^{1,2}, [Chiara Vimercati](#)⁵, [Andrea Biondi](#)^{3,5}, [Fabrizio Luppi](#)^{3,4}, [Giovanni Corrao](#)^{1,2}, [Paola Faverio](#)^{3,4}

Affiliations expand

- PMID: 37991180
- DOI: [10.1002/ppul.26764](https://doi.org/10.1002/ppul.26764)

Free article

Abstract

Introduction: Asthma is one of the most common diseases in children, with a variable range of severity. In recent years, treatment for severe asthma has been largely improved by the availability of targeted biologic therapies. Nevertheless, studies reporting real-world data and cost-effectiveness analyses are lacking. The aim of this study was to evaluate, on a population-based cohort of children with asthma, the impact of the treatment with biologics on healthcare service utilization and associated costs.

Methods: Data were retrieved from Healthcare Utilization database of Lombardy region (Italy). A cohort of 46 asthmatic children aged 6-11 in treatment with dupilumab, mepolizumab or omalizumab was identified during 2017-2021. We compared healthcare resources use between the year before ("baseline period") and the year after the treatment initiation ("follow-up period"). Average 1-year healthcare costs were also calculated.

Results: Comparing the baseline with the follow-up period, the number of patients with at least one exacerbation-related hospitalization and ER access decreased by 75.0% and 85.7%, respectively. The use of biologic agents, namely omalizumab, mepolizumab and dupilumab, significantly reduced oral corticosteroids (OCS), short-acting β 2-agonists and the association inhaled corticosteroids/long-acting β 2-agonists use. ER admissions for non-respiratory causes were also significantly reduced, while discontinuation rate was low (6.5%). The overall costs increased, due to the costs of the biologic agents, but the hospital admission-related costs due to respiratory causes reduced significantly.

Conclusions: Our real-world investigation suggests that biologic agents reduced hospital admissions for respiratory causes and use of anti-asthmatic drugs, including OCS. However, long-term healthcare sustainability still needs more in-depth assessments.

Keywords: children; dupilumab; mepolizumab; omalizumab; severe asthma.

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. 2024 Feb;59(2):426-432.

doi: 10.1002/ppul.26767. Epub 2023 Nov 21.

Inhaled nitric oxide in acute bronchiolitis: A systematic review and meta-analysis

[Ilari Kuitunen](#)^{1,2}, [Marjo Renko](#)^{1,2}

Affiliations expand

- PMID: 37988259
- DOI: [10.1002/ppul.26767](https://doi.org/10.1002/ppul.26767)

Abstract

Objective: Until date there is lack of effective therapies in acute bronchiolitis in infants. The aim was to analyze inhaled nitric oxide efficacy in acute bronchiolitis.

Design: Systematic review and meta-analysis of randomized controlled trials.

Setting: Pediatric specialized healthcare.

Patients: All infants (age less than 2 years) having acute bronchiolitis, which requires emergency room visit or hospitalization.

Intervention: Inhaled nitric oxide.

Main outcome measures: Need for intensive care unit admission. Secondary outcomes were length of hospital stay and adverse events. Risk ratios (RR) and mean differences with 95% confidence intervals (CI) calculated by random-effects DerSimonian and Laird inverse

variance method. Peto Odds ratios were used for rare outcomes. Evidence certainty assessed according to GRADE.

Results: 186 studies were screened and three included for analysis. Two had low risk of bias and one had some concerns. Three studies (166 infants) analyzed length of hospital stay and the duration was -11.3 h (CI: -26.8 to +4.2 h) shorter in the nitric oxide group. Evidence certainty was ranked as low. Overall adverse event rates were similar (3 studies, 166 infants, RR: 0.94, CI: 0.70-1.26), but treatment related harms were more common in nitric oxide group (2 studies, 98 infants, OR: 3.86, CI: 1.04-14.40). Evidence certainty in both was rated as low.

Conclusions: Low certainty evidence suggests that inhaled nitric oxide does not reduce length of hospital stay but may have higher rate of treatment associated harms. Future studies with larger sample sizes are needed to better estimate both the efficacy and adverse events.

Keywords: acute bronchiolitis; asthma and early wheeze; evidence-based medicine and outcomes.

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[Review](#)

Immunol Allergy Clin North Am

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. 2024 Feb;44(1):35-44.

doi: 10.1016/j.iac.2023.07.001. Epub 2023 Aug 21.

Extreme Weather Events and Asthma

[Jennilee Luedders](#)¹, [Jill A Poole](#)², [Andrew C Rorie](#)²

Affiliations expand

- PMID: 37973258
- DOI: [10.1016/j.iac.2023.07.001](https://doi.org/10.1016/j.iac.2023.07.001)

Abstract

The objective of this article is to review recent literature on the implications of extreme weather events such as thunderstorms, wildfires, tropical cyclones, freshwater flooding, and temperature extremes in relationship to asthma symptoms. Several studies have shown worsening of asthma symptoms with thunderstorms, wildfires, tropical cyclones, freshwater flooding, and temperature extremes. In particular, thunderstorm asthma can be exacerbated by certain factors such as temperature, precipitation, and allergen sensitization. Therefore, it is imperative that the allergy and immunology community be aware of the health effects associated with these extreme weather events in order to educate patients and engage in mitigation strategies.

Keywords: Asthma; Climate change; Extreme weather; Freshwater flooding; Temperature extremes; Thunderstorm asthma; Tropical cyclones; Wildfires.

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Review

Immunol Allergy Clin North Am

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. 2024 Feb;44(1):15-33.

doi: 10.1016/j.iac.2023.07.004. Epub 2023 Sep 7.

Respiratory Health Effects of Air Pollutants

[David B Peden](#)¹

Affiliations expand

- PMID: 37973257
- DOI: [10.1016/j.iac.2023.07.004](https://doi.org/10.1016/j.iac.2023.07.004)

Abstract

Air pollution is a risk factor for asthma and respiratory infection. Avoidance of air pollution is the best approach to mitigating the impacts of pollution. Personal preventive strategies are possible, but policy interventions are the most effective ways to prevent pollution and its effect on asthma and respiratory infection.

Keywords: Air pollution; Asthma; COVID-19; PM2.5; Pneumonia.

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Am J Respir Crit Care Med

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. 2024 Feb 1;209(3):331-334.

doi: 10.1164/rccm.202308-1514LE.

Larger Mediastinal Lymph Nodes Are Associated with Worse Lung Function in Persistent Asthma

[Rory Chan](#)¹, [Chary Duraikannu](#)², [Mohamed Jaushal Thouseef](#)², [Brian Lipworth](#)¹

Affiliations expand

- PMID: 37972229
- DOI: [10.1164/rccm.202308-1514LE](https://doi.org/10.1164/rccm.202308-1514LE)

No abstract available

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Publication types, MeSH termsexpand

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33

Pediatr Pulmonol



. 2024 Feb;59(2):291-299.

doi: 10.1002/ppul.26745. Epub 2023 Nov 3.

[Spirometry in the diagnosis of cough variant asthma in children](#)

[Chunyu Tian](#)¹, [Shiqiu Xiong](#)¹, [Shuo Li](#)¹, [Xin Song](#)¹, [Yantao Zhang](#)¹, [Xinmei Jiang](#)¹, [Xinyue Hou](#)¹, [Yifan Zhang](#)¹, [Chuanhe Liu](#)¹

Affiliations expand

- PMID: 37921541
- DOI: [10.1002/ppul.26745](https://doi.org/10.1002/ppul.26745)

Abstract

Objective: This study aimed to assess the diagnostic utility of spirometry, particularly focusing on small airway parameters, in children with cough variant asthma (CVA).

Methods: This study included children aged 5-12 years with a diagnosis of CVA. Pre- and postbronchodilation spirometry parameters, including FEV₁ %pred, FVC%pred, FEV₁/FVC%pred, PEF%pred, FEF₂₅ %pred, FEF₅₀ %pred, FEF₇₅ %pred, MMEF%pred, were recorded. Receiver operating characteristic curves were plotted, and the area under the curve (AUC) was calculated to assess the discriminatory potential of these spirometry parameters for CVA. A prediction model based on logistic regression (LR) was performed.

Results: A total of 200 patients with CVA and 73 control subjects were included. Baseline spirometry parameters in the CVA group, except for FVC%pred, were significantly lower compared to the control group. After inhalation of salbutamol sulfate, all parameters showed significant improvement in the CVA group. However, these parameters, except for

FEV₁ %pred and FVC%pred, remained lower in the CVA group compared to the control group. The improvement rate of each parameter in the CVA group, except for Δ FVC%, was significantly higher than that in the control group. Δ MMEF% achieved the highest AUC of 0.797 with a threshold value of 16.09%, followed by Δ FEF₇₅ % (0.792), Δ FEV₁ % (0.756), and Δ FEF₅₀ % (0.747) with threshold values of 19.01%, 4.48%, and 19.4%, respectively. The clinical prediction model included four variables (age, Δ FEF₂₅ %, Δ FEF₇₅ %, and Δ MMEF%) and demonstrated excellent performance distinguishing patients with and without CVA (AUC = 0.850). In the CVA group, the Δ FEV₁ % showed a positive correlation with small airway parameters.

Conclusions: This study highlights that children with CVA exhibit lower pulmonary function parameters compared to healthy children. Changes in small airway parameters during bronchodilator tests can be valuable in diagnosing CVA, and the LR prediction model incorporating age and several pulmonary parameters can assist physicians in accurately identifying CVA in clinical practice.

Keywords: children; cough variant asthma; diagnosis; spirometry.

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- [33 references](#)

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J Allergy Clin Immunol Glob

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. 2023 Sep 28;3(1):100174.

doi: 10.1016/j.jacig.2023.100174. eCollection 2024 Feb.

The effect of biologics in lung function and quality of life of patients with united airways disease: A systematic review

[Javier Domínguez-Ortega¹](#), [Joaquim Mullol²](#), [Francisco Javier Álvarez Gutiérrez³](#), [Celia Miguel-Blanco⁴](#), [Jose Antonio Castillo⁵](#), [Jose María Olaguibel⁶](#), [Marina Blanco-Aparicio⁷](#)

Affiliations expand

- PMID: 37915724
- PMCID: [PMC10616425](#)
- DOI: [10.1016/j.jacig.2023.100174](#)

Free PMC article

Abstract

Background: Increasing evidence supports the united airway disease concept for the management of upper and lower respiratory tract diseases, particularly in patients with asthma and chronic rhinosinusitis with nasal polyps (CRSwNP). However, evidence for a combined approach in asthma and CRSwNP is scarce.

Objective: In this systematic review, we focused on the role of biologics in the lung function and quality of life in patients with severe asthma and CRSwNP.

Methods: We conducted a systematic search of 3 electronic databases using 2 search strategies to identify studies published from January 2010 to March 2022. Quality assessment was performed with the Critical Appraisal Skills Programme.

Results: Of 1030 studies identified, 48 original studies reporting data of benralizumab (12), dupilumab (14), mepolizumab (10), omalizumab (13), and reslizumab (2) were analyzed. Primary diagnosis was mostly asthma or CRSwNP, with only 15 studies, mainly observational, performed in populations with united airway disease. In total, 18 studies reported data on quality of life (mostly 22-item Sino-Nasal Outcome Test score), 8 on lung function (mostly FEV₁), and 22 on both outcomes. Significant FEV₁ and 22-item Sino-Nasal Outcome Test score improvements were consistently observed after 24-week treatment,

and thereafter, mostly in real-world studies that included variable proportions of patients with asthma/CRSwNP.

Conclusions: The use of biologics in patients with severe asthma and CRSwNP was overall associated with significant improvements in lung function and quality of life. However, we observed a high heterogeneity of populations and outcome measurements across studies. Notwithstanding the need of larger studies, our results reinforce the joint management of asthma and CRSwNP as united airway disease in clinical practice.

Keywords: Asthma; chronic rhinosinusitis with nasal polyps; lung function; quality of life; united airways disease.

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- [1 figure](#)

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Allergy

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. 2024 Feb;79(2):516-519.

doi: 10.1111/all.15934. Epub 2023 Oct 31.

[Eosinophilic granulomatosis with polyangiitis onset in severe asthma patients on monoclonal antibodies](#)

targeting type 2 inflammation: Report from the European EGPA study group

[Marco Caminati](#)¹, [Angelo Fassio](#)², [Federico Alberici](#)³, [Chiara Baldini](#)⁴, [Federica Bello](#)⁵, [Paolo Cameli](#)⁶, [Edoardo Conticini](#)⁷, [Vincent Cottin](#)⁸, [Claudia Crimi](#)^{9,10}, [Lorenzo Dagna](#)¹¹, [Paolo Delvino](#)^{12,13}, [Alban Deroux](#)¹⁴, [Emine Duran](#)¹⁵, [Georgina Espigol-Frigole](#)¹⁶, [Omer Karadag](#)¹⁵, [Matteo Maule](#)¹⁷, [Sergey Moiseev](#)¹⁸, [Sara Monti](#)^{12,13}, [Luca Moroni](#)¹¹, [Roberto Padoan](#)¹⁹, [Gregory Pugnet](#)²⁰, [Camille Taille](#)²¹, [Paola Toniati](#)²², [Augusto Vaglio](#)^{23,24}, [Giacomo Emmi](#)^{5,25}

Affiliations expand

- PMID: 37904674
- DOI: [10.1111/all.15934](https://doi.org/10.1111/all.15934)

No abstract available

Keywords: EGPA; T2 inflammation; benralizumab; dupilumab; eosinophilic granulomatosis with polyangiitis; mepolizumab; monoclonal antibodies; omalizumab; reslizumab; severe asthma.

- [11 references](#)

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Publication types, MeSH terms, Substances expand

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[Review](#)



. 2024 Feb 1;24(1):32-36.

doi: 10.1097/ACI.0000000000000953. Epub 2023 Oct 25.

Moderate asthma: burden, mechanisms and therapeutic perspectives

[Laura De Ferrari](#)^{1,2}, [Anna Maria Riccio](#)^{1,2}, [Fulvio Braidò](#)^{1,2}

Affiliations expand

- PMID: 37877372
- DOI: [10.1097/ACI.0000000000000953](https://doi.org/10.1097/ACI.0000000000000953)

Abstract

Purpose of review: Global Initiative for Asthma (GINA) document provides a classification of asthma severity according with the current level of treatment required to achieve diseases control and underlines the limitations of this approach. In this review, we will provide an overview of recent investigations that have analyzed clinical and molecular features of moderate asthma.

Recent findings: Moderate asthma is heterogeneous in terms of response to inhaled treatment and pathogenetic mechanisms underlying the clinical features. Analysis of inflammatory pathways in patients who do not achieve disease remission allows identification of patient subgroups that may benefit from specific biological treatments.

Summary: Scientific progress makes increasingly clear that there are biological mechanisms capable of identifying and justifying the degree of severity of asthma. The identification of these, combined with the development of new pharmacological treatments, will be the cornerstones of improving the management of asthma in its degrees of severity.

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Allergy

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. 2024 Feb;79(2):509-513.

doi: 10.1111/all.15901. Epub 2023 Sep 26.

[Effect of dupilumab on sputum eosinophils in patients with moderate-to-severe asthma](#)

[Sarah Svenningsen](#)^{1,2}, [Melanie Kjarsgaard](#)^{1,2}, [Kayla Zhang](#)¹, [Hana Serajeddini](#)^{1,2}, [Carmen Venegas Garrido](#)^{1,2}, [Anurag Bhalla](#)^{1,2}, [Katherine Radford](#)¹, [Chynna Huang](#)¹, [Terence Ho](#)^{1,2}, [Nandhitha Rangunayakam](#)¹, [Ashutosh Thakar](#)¹, [Nisarg Radadia](#)¹, [Manali Mukherjee](#)^{1,2}, [Parameswaran Nair](#)^{1,2}

Affiliations expand

- PMID: 37750593
- DOI: [10.1111/all.15901](https://doi.org/10.1111/all.15901)

No abstract available

- [6 references](#)

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Publication types, MeSH terms, Substances, Grants and funding expand

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38

Review

J Asthma

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. 2024 Feb;61(2):92-104.

doi: 10.1080/02770903.2023.2255267. Epub 2023 Sep 5.

[Telemonitoring in patients with asthma: a systematic review](#)

[Lida Fadaizadeh¹](#), [Farnia Velayati¹](#), [Mohammad Sanaat¹](#)

Affiliations expand

- PMID: 37668320
- DOI: [10.1080/02770903.2023.2255267](https://doi.org/10.1080/02770903.2023.2255267)

Abstract

Background: Monitoring and managing asthma using technology can help increase patient adherence and achieve better asthma control. This study aimed to evaluate the effectiveness of telemonitoring using smartphones and telephone communication compared to usual outpatient clinical evaluation in patients with asthma.

Data sources: This systematic review was conducted in 2023. Databases PubMed, Scopus, Web of Science, and the Google Scholar search engine, were searched from 2013 to 2022.

Data selection: The selected studies were randomized clinical trials that used telemonitoring in patients with asthma. The quality of the studies was evaluated using the JADAD scale. Data were collected using a data extraction form, and the findings were synthesized narratively. This systematic review was conducted following the PRISMA checklist.

Results: Initially, 4,147 articles were found, of which 14 were included in the study. The results showed that in some cases, telemonitoring using smartphones and telephone communication in patients with asthma is effective, while in other studies, its effectiveness was not observed.

Conclusions: Telemonitoring using smartphones and telephone communication in patients with asthma can be considered an appropriate strategy to reduce the use of healthcare resources and improve quality of life. However, further studies are recommended to investigate the effectiveness of each of these technologies and their specific outcomes.

Keywords: Telemonitoring; asthma; smartphones; telephone communication.

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Infection

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. 2024 Feb;52(1):209-218.

doi: 10.1007/s15010-023-02085-w. Epub 2023 Aug 29.

Old foes following news ways? – Pandemic-related changes in the epidemiology of viral respiratory tract infections

[Nicole Maison](#)^{1,2,3}, [Jimmy Omony](#)⁴, [Sophia Rinderknecht](#)⁵, [Laura Kolberg](#)⁶, [Melanie Meyer-Bühn](#)⁶, [Erika von Mutius](#)^{5,4,7}, [Johannes Hübner](#)⁶, [Ulrich von Both](#)^{6,8}

Affiliations expand

- PMID: 37644253
- PMCID: [PMC10811157](#)
- DOI: [10.1007/s15010-023-02085-w](#)

Free PMC article

Abstract

Introduction: Following lockdown periods and restricting public health measures in response to the COVID-19 pandemic, respiratory tract infections (RTIs) rose significantly worldwide. This led to an increased burden on children's hospitals compromising medical care of acutely and chronically ill children. We characterized changes in the epidemiological pattern of circulating respiratory viral infections.

Methods: We assessed the number of patients with RTIs and the annual distribution of virus detections between 2019 and 2022 based on 4809 clinical samples (4131 patients) from a German pediatric tertiary care-center. We investigated the impact of lockdown periods on spectra of circulating respiratory viruses, pattern of coinfections, age, and seasonality of infections.

Results: A fourfold increase in the number of respiratory virus detections was observed in 2022 vs 2019 with numbers doubling in 2022 (vs 2021). In 2022, seasonal patterns of circulating virus, particularly Adeno and seasonal Coronavirus were far less pronounced compared to previous years, in fact almost disappeared for Rhinoviruses". SARS-CoV-2, Parainfluenza- and human Metapneumovirus detections increased significantly in 2022 (2019 vs 2022, $p < 0.01$). Coinfections with multiple viruses occurred more frequently since

2021 compared to pre-pandemic years, especially in younger children (2019 vs 2022, $p < 0.01$).

Conclusion: Compared to pre-pandemic years, we observed a dramatic increase in pediatric RTIs with an incrementing spectrum of viruses and a predominance in Rhino/Enterovirus infections - leading to a high rate of hospital admissions, particularly in conjunction with other viruses. This caused an acute shortage in medical care and may also be followed by an increase of virus-triggered secondary chronic respiratory diseases like asthma-rendering a burden on the health system.

Keywords: Epidemiology; Pandemic; Respiratory tract infection; Respiratory viruses; Rhinovirus.

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Conflict of interest statement

Nicole Maison, Jimmy Omony, Ulrich von Both, Johannes Huebner, Sophia Rinderknecht, Laura Kohlberg, Melanie Meyer-Buehn have no conflict of interest. Erika von Mutius received consulting fees and funding for the research project "Impact of COVID 19 pandemic on patients with asthma and wheeze" from OM Pharma S.A.

- [35 references](#)
- [6 figures](#)

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Observational Study

Allergy



. 2024 Feb;79(2):384-392.

doi: 10.1111/all.15867. Epub 2023 Aug 25.

Biologics (mepolizumab and omalizumab) induced remission in severe asthma patients

[Dennis Thomas](#)¹, [Vanessa M McDonald](#)^{1,2}, [Sean Stevens](#)¹, [Erin S Harvey](#)^{1,2}, [Melissa Baraket](#)^{3,4}, [Philip Bardin](#)⁵, [Jeffrey J Bowden](#)⁶, [Simon Bowler](#)⁷, [Jimmy Chien](#)^{8,9}, [Li Ping Chung](#)¹⁰, [Andrew Gillman](#)¹¹, [Mark Hew](#)^{11,12}, [Sandra Hodge](#)^{13,14}, [Alan James](#)^{15,16}, [Christine Jenkins](#)^{17,18}, [Constance H Katelaris](#)^{19,20}, [Gregory P Katsoulotos](#)^{21,22,23,24}, [David Langton](#)^{25,26}, [Joy Lee](#)²⁷, [Guy Marks](#)^{3,21}, [Matthew Peters](#)¹⁷, [Naghmeh Radhakrishna](#)²⁸, [Paul N Reynolds](#)¹⁴, [Janet Rimmer](#)^{21,24}, [Pathmanathan Sivakumaran](#)²⁹, [John W Upham](#)^{30,31}, [Peter Wark](#)^{1,2}, [Ian A Yang](#)^{31,32}, [Peter G Gibson](#)^{1,2}

Affiliations expand

- PMID: 37632144
- DOI: [10.1111/all.15867](https://doi.org/10.1111/all.15867)

Abstract

Background: Asthma remission has emerged as a potential treatment goal. This study evaluated the effectiveness of two biologics (mepolizumab/omalizumab) in achieving asthma remission.

Methods: This observational study included 453 severe asthma patients (41% male; mean age \pm SD 55.7 \pm 14.7 years) from two real-world drug registries: the Australian Mepolizumab Registry and the Australian Xolair Registry. The composite outcome clinical remission was defined as zero exacerbations and zero oral corticosteroids during the previous 6 months assessed at 12 months and 5-item Asthma Control Questionnaire (ACQ-5) \leq 1 at 12 months. We also assessed clinical remission plus optimization (post-bronchodilator FEV1 \geq 80%) or stabilization (post-bronchodilator FEV1 not greater than 5% decline from baseline) of lung function at 12 months. Sensitivity analyses explored various cut-offs of ACQ-5/FEV1 scores. The predictors of clinical remission were identified.

Results: 29.3% (73/249) of AMR and 22.8% (37/162) of AXR cohort met the criteria for clinical remission. When lung function criteria were added, the remission rates were

reduced to 25.2% and 19.1%, respectively. Sensitivity analyses identified that the remission rate ranged between 18.1% and 34.9% in the AMR cohort and 10.6% and 27.2% in the AXR cohort. Better lung function, lower body mass index, mild disease and absence of comorbidities such as obesity, depression and osteoporosis predicted the odds of achieving clinical remission.

Conclusion: Biologic treatment with mepolizumab or omalizumab for severe asthma-induced asthma remission in a subgroup of patients. Remission on treatment may be an achievable treatment target and future studies should consider remission as an outcome measure.

Keywords: asthma; mepolizumab; omalizumab; remission.

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- [29 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Grants and fundingexpand

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J Asthma

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. 2024 Feb;61(2):140-147.

doi: 10.1080/02770903.2023.2248507. Epub 2023 Sep 6.

Feasibility of text message follow-up for pediatric asthma care after an emergency department visit

[Kaitlin Hall](#)¹, [Frances Barry](#)², [Lindsey R Thompson](#)³, [Bahareh Ravandi](#)⁴, [Jeanine E Hall](#)⁴, [Todd P Chang](#)⁴, [Jill S Halterman](#)⁵, [Peter G Szilagyi](#)¹, [Sande O Okelo](#)¹

Affiliations expand

- PMID: 37610221
- DOI: [10.1080/02770903.2023.2248507](https://doi.org/10.1080/02770903.2023.2248507)

Abstract

Background: Many children seen in the Emergency Department (ED) for asthma do not follow-up with their primary care provider. Text messaging via short message service (SMS) is a ubiquitous, but untested means of providing post-ED asthma follow-up care. **Objective:** To evaluate responses to an asthma assessment survey via SMS following an ED visit and estimate the likelihood of response by sociodemographic and clinical characteristics. **Methods:** We recruited 173 parents of children 2-17 years-old presenting for ED asthma care to receive a follow-up text (participation rate: 85%). One month later, parents received via SMS a 22-item survey that assessed asthma morbidity. We assessed response rates overall and by various sociodemographic and clinical characteristics, including age, parental education, and indicators of asthma severity. **Results:** Overall, 55% of parents ($n = 95$) responded to the SMS survey. In multivariable logistic regression (MLR), parents who graduated high school had a four-fold higher response rate compared to parents with less than a high school degree (OR: 4.05 (1.62, 10.13)). More parents of children with oral steroid use in the prior 12 months responded to survey items (OR: 2.53 (1.2, 5.31)). Reported asthma characteristics included: 48% uncontrolled, 22% unimproved/worse, 21% with sleep disruption, and 10% who were hospitalized for asthma. **Conclusions:** Text messaging may be a viable strategy to improve post-ED asthma assessment and to identify children with persistent symptoms in need of enhanced care or modification of care plans.

Keywords: SMS; Text messaging; emergency department; follow-up; pediatric asthma.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



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42

J Asthma

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. 2024 Feb;61(2):148-159.

doi: 10.1080/02770903.2023.2248512. Epub 2023 Aug 26.

[Health-related quality of life, anxiety, depression, beliefs of medication, and self-efficacy in individuals with severe asthma - a population-based study](#)

[L Rönnebjerg](#)¹, [M Axelsson](#)², [H Kankaanranta](#)^{1,3,4}, [L Ekerljung](#)¹

Affiliations expand

- PMID: 37610189
- DOI: [10.1080/02770903.2023.2248512](https://doi.org/10.1080/02770903.2023.2248512)

Abstract

Objective: Individuals with severe asthma often report poor Health-related quality of life (HRQoL) and more research is essential to increase understanding of how they may be helped to improve HRQoL. The main aim of the current paper is to evaluate HRQoL, and possible factors influencing HRQoL, in individuals with severe asthma. The aim is also to

explore associations among anxiety, depression, beliefs of medication, self-efficacy, and HRQoL among individuals with severe and other asthma as well as those with no asthma.

Methods: Participants with severe asthma ($n = 59$), other asthma ($n = 526$), and no asthma ($n = 902$) were recruited from West Sweden Asthma Study, a population-based study, which includes both questionnaire surveys and clinical examinations.

Results: Individuals with severe asthma had worse physical HRQoL (measured with SF-8) than those with other and no asthma (median 48.4, 51.9, and 54.3, respectively). They also had worse mental HRQoL (median 46.7) and reported higher anxiety and depression scores (measured using HADS, median 5.0 and 3.5, respectively) compared to no asthma (median 4.0 and 2.0, respectively). HRQoL was particularly affected among women with severe asthma. Individuals with severe asthma believed that their asthma medication was more necessary than those with other asthma, but they reported more concern for the medication. Asthma control and packyears predicted physical HRQoL and anxiety predicted mental HRQoL among individuals with severe asthma.

Conclusions: Efforts to improve asthma control and to reduce anxiety may improve HRQoL in individuals with severe asthma. Especially, women with severe asthma seem to need support to improve their HRQoL. Reducing concerns with asthma medication is most likely essential as high concerns may lead to poor adherence, which in turn may negatively affect asthma control and HRQoL.

Keywords: Difficult asthma; clinical variables; epidemiology; health psychology; physical functioning; treatable traits; well-being.

- [Cited by 1 article](#)

SUPPLEMENTARY INFO

MeSH termsexpand

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Review

J Asthma

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. 2024 Feb;61(2):81-91.

doi: 10.1080/02770903.2023.2251062. Epub 2023 Sep 1.

Pediatric asthma exacerbation and COVID-19 pandemic: Impacts, challenges, and future considerations

[Soroush Khojasteh-Kaffash](#)^{1,2,3}, [Peyvand Parhizkar Roudsari](#)^{2,4}, [Amir Ghaffari Jolfayi](#)^{2,5}, [Noosha Samieefar](#)^{2,3}, [Nima Rezaei](#)^{2,6,7}

Affiliations expand

- PMID: 37610180
- DOI: [10.1080/02770903.2023.2251062](https://doi.org/10.1080/02770903.2023.2251062)

Abstract

Objective: Asthma, a common disease among children and adolescents, poses a great health risk when ignored; therefore, a thorough follow-up to prevent exacerbations is emphasized. The aim of the present study is to investigate asthma exacerbation in children during the Coronavirus disease 2019 (COVID-19) era.

Data sources: This narrative review has been done by searching the PubMed and Embase databases using Asthma, COVID-19, Pandemic, and Symptom flare up as keywords.

Study selections: Studies related to asthma exacerbation in COVID-19 pandemic were included.

Results: Based on studies, controlled or mild to moderate asthma has not been considered a risk factor for COVID-19 severity and has not affected hospitalization, intensive care unit (ICU) admission, and mortality. Surprisingly, emergent and non-emergent visits and asthmatic attacks decreased during the pandemic. The three main reasons for decreased incidence and exacerbation of asthma episodes in the COVID-19 era included reduced exposure to environmental allergens, increasing the acceptance of treatment by pediatrics

and caregivers, and decreased risk of other respiratory viral infections. Based on the available studies, COVID-19 vaccination had no serious side effects, except in cases of uncontrolled severe asthma, and can be injected in these children. Also, there was no conclusive evidence of asthma exacerbation after the injection of COVID-19 vaccines.

Conclusion: Further studies are recommended to follow the pattern of asthma in the post-pandemic situation and to become prepared for similar future conditions.

Keywords: Asthma; COVID-19; pandemic; symptom flare up.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances expand

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44

J Asthma

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. 2024 Feb;61(2):132-139.

doi: 10.1080/02770903.2023.2248485. Epub 2023 Aug 24.

[In symptomatic patients on as-needed inhaled corticosteroids-formoterol, VAS asthma is associated with small airways resistance](#)

[Ilçim Vardalolu](#)¹, [Bernardo Sousa-Pinto](#)^{2,3}, [Jean Bousquet](#)^{4,5,6}, [Peter Dodek](#)⁷, [Anna Bedbrook](#)^{8,8}, [Mert Karatas](#)⁹, [Bilun Gemicioglu](#)¹

Affiliations expand

- PMID: 37594413

- DOI: [10.1080/02770903.2023.2248485](https://doi.org/10.1080/02770903.2023.2248485)

Abstract

Objectives: Impulse oscillometry (IOS) can demonstrate small airways disease even when spirometry values are normal. However, it is unknown if the absence of symptoms excludes increased small airways resistance in asthma patients. We aimed to correlate symptoms (assessed through visual analogue scales) with measures of small airways resistance in patients with asthma and to determine whether less symptomatic patients have increased small airways resistance.

Methods: We conducted a single center, prospective cohort study. We included controlled asthma patients on as-needed inhaled corticosteroids-formoterol. Patients were evaluated on their symptom VASs, Spirometry and IOS (with R5-R20% measuring small airways resistance) which were measured both in periods when they were less symptomatic and symptomatic. Symptoms were assessed using MASK-air®, an mHealth app that includes a daily monitoring questionnaire with validated VASs. We correlated MASK-air VASs with small airways resistance.

Results: We assessed 29 patients. There was a significant correlation between VAS asthma and R5-R20% in symptomatic periods ($r = 0.43$; 95% CI = 0.13;0.68, $p = 0.019$), but not in less symptomatic periods (0.04; 95% CI-0.40;0.46; $p = 0.825$). In less symptomatic periods, patients presenting with low VAS asthma (VAS < 30) displayed a lower median R5-R20% than the remainder (0.26 versus 0.35), as well as a lower R5% (0.13 versus 0.15) ($p < 0.001$). In 68.9% of less symptomatic patients, R5-R20 values remained higher than normal values.

Conclusion: In symptomatic patients on as-needed inhaled corticosteroids-formoterol, VAS asthma was associated with small airways resistance. However, even if these patients are less symptomatic, small airways resistance may be higher than normal. Since SAD significantly affects asthma control, patients should be carefully followed-up, even in less symptomatic periods.

Keywords: Asthma; airway resistance; patient-reported outcome measures; symptom assessment.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

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45

J Asthma



. 2024 Feb;61(2):119-131.

doi: 10.1080/02770903.2023.2247490. Epub 2023 Aug 22.

[Genetic relationships between high blood eosinophil count, asthma susceptibility, and asthma severity](#)

[Huashi Li](#)^{1,2}, [Xingnan Li](#)²

Affiliations [expand](#)

- PMID: 37560908
- DOI: [10.1080/02770903.2023.2247490](https://doi.org/10.1080/02770903.2023.2247490)

Abstract

Objective: Genetic relationships between blood eosinophil count (BEC), asthma susceptibility, and severity are unclear. We sought to identify the genetic difference between type 2 (T2) and nontype 2 (non-T2) asthma (defined by BEC) and investigate genetic relationships between high BEC, asthma susceptibility, and severity.

Methods: Genome-wide association studies (GWASs) were performed for T2 ($n = 9,064$; $\text{BEC} \geq 300$ cells/ μL) versus non-T2 asthma ($n = 14,379$; $\text{BEC} < 150$ cells/ μL) and asthma susceptibility (37,227 asthmatics vs. 124,132 nonasthma controls) in the UK Biobank and asthma severity (moderate-to-severe asthma [$n = 2,153$] vs. mild asthma [$n = 5165$]) in the

All of Us Research Program (AoURP). Genetic causality between BEC, asthma susceptibility, and severity were dissected using Mendelian randomization (MR).

Results: High BEC was associated with asthma and decreased pulmonary function. GWASs revealed four sets of genetic variants ($p < 5 \times 10^{-8}$): genes associated with only BEC or asthma and genes associated with high BEC and asthma in the same or opposite direction. The C allele of rs653178 in *ATXN2* was associated with high BEC, risk for autoimmune diseases, and protection for asthma. Genetic variants associated with BEC or asthma were not associated with asthma severity. MR indicated high BEC and asthma were in bidirectional causal relationship ($p < .001$); however, they were not causal for asthma severity.

Conclusions: Genetic variants associated with asthma or BEC and asthma severity are distinctive. High BEC is a risk factor for asthma; however, it is neither necessary nor sufficient for asthma susceptibility and severity.

Keywords: All of Us Research Program; Mendelian randomization; UK Biobank; asthma severity; asthma susceptibility; blood eosinophil count; genome-wide association study.

SUPPLEMENTARY INFO

MeSH termsexpand

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Case Reports

J Asthma

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. 2024 Feb;61(2):173-175.

doi: 10.1080/02770903.2023.2244590. Epub 2023 Aug 26.

Efficacy of mepolizumab and omalizumab combination therapy in uncontrolled asthma

[Mehmet Emin Sezgin](#)¹, [Mustafa Çolak](#)², [Özge Çağlayan](#)¹, [Merve Yumrukuz Şenel](#)², [Esmâ Nur Aktepe Sezgin](#)³, [Hikmet Çoban](#)², [Nurhan Sarıoğlu](#)², [Bilun Gemicioğlu](#)⁴, [Fuat Erel](#)¹

Affiliations expand

- PMID: 37530447
- DOI: [10.1080/02770903.2023.2244590](https://doi.org/10.1080/02770903.2023.2244590)

Abstract

Objective: Results of biological therapies are often encouraging for severe asthma who are phenotyped as Type 2 inflammation. Unfortunately, some patients do not achieve the desired responses. In this group of patients, there are often switches between anti Ig E and anti-IL-5s and partial improvements are often is deemed sufficient.

Method: We planned to start combination therapy with mepolizumab and omalizumab in a 52-year-old patient with uncontrolled allergic asthma whose asthma could not be controlled with omalizumab and mepolizumab treatment, respectively. After complete asthma control was achieved, we aimed to discontinue mepolizumab and continue with omalizumab because it was allergic asthma.

Result: The combination of omalizumab 300 mg/month and mepolizumab 100 mg/month was tried and emergency admissions and oral corticosteroids were stopped. At the same time, significant improvement was observed in asthma control test, pulmonary function test and comfort of life.

Conclusion: Combined use of Anti-Ig E (omalizumab) and Anti IL 5 (mepolizumab) with a synergistic effect by acting through both pathways, especially in patients with allergic asthma and high levels of both total Ig E and eosinophilia, was found to be effective and no side effects were observed in long-term follow-up. Combination therapy with omalizumab and mepolizumab may become a safe option in patients with severe allergic asthma with a Type 2 inflammatory phenotype who cannot be controlled with each biologic agent.

Keywords: Omalizumab; biological therapy; combination; mepolizumab; severe asthma.

- [Cited by 1 article](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances expand

FULL TEXT LINKS



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

1

Int Forum Allergy Rhinol

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. 2024 Jan 31.

doi: 10.1002/alr.23325. Online ahead of print.

Impact of dupilumab prescribing on utilization of medical and surgical therapies for chronic rhinosinusitis with nasal polyps

[Christopher M Low](#)^{1,2}, [Allan R Wang](#)^{1,3}, [Michael Yong](#)¹, [Jayakar Nayak](#)¹, [Zara Patel](#)¹, [Peter H Hwang](#)¹

Affiliations expand

- PMID: 38297486
- DOI: [10.1002/alr.23325](https://doi.org/10.1002/alr.23325)

Abstract

Increased dupilumab utilization coincided with decreased ESS in patients with CRSwNP between 2019 and 2021. One potential confounder was the concurrent COVID-19 pandemic, which may have negatively impacted surgery utilization rates.

Keywords: FESS; chronic rhinosinusitis; endoscopic sinus surgery; eosinophilic rhinitis and nasal polyposis; medical therapy of chronic rhinosinusitis; therapeutics.

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- [10 references](#)

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2

Int Forum Allergy Rhinol

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. 2024 Jan 31.

doi: 10.1002/alr.23329. Online ahead of print.

[Which intranasal corticosteroids can be used in patients on highly active antiretroviral therapy or pre-exposure prophylactic?](#)

[Meghan Norris](#)¹, [Erin Lopez](#)¹, [Daniel Alicea Delgado](#)¹, [Brian Thorp](#)¹, [Christine Klatt-Cromwell](#)¹, [Brent Senior](#)¹, [Adam Kimple](#)¹, [Charles S Ebert Jr](#)¹

Affiliations [expand](#)

- PMID: 38297443

- DOI: [10.1002/alr.23329](https://doi.org/10.1002/alr.23329)

Abstract

All intranasal corticosteroid spray formulations are safe to use in patients on pre-exposure prophylaxis. Beclomethasone nasal spray can be used safely with all HAART and PrEP regimens.

Keywords: HAART; HIV; PrEP; chronic rhinitis; chronic sinusitis; corticosteroids.

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- [6 references](#)

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3

Curr Opin Allergy Clin Immunol

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. 2024 Jan 31.

doi: 10.1097/ACI.0000000000000970. Online ahead of print.

[What's new in pediatric asthma and rhinitis phenotypes and endotypes?](#)

[Giulia Roberto](#)^{1,2}, [Salvatore Barberi](#)³, [Gian Luigi Marseglia](#)^{1,2}, [Amelia Licari](#)^{1,2}

Affiliations expand

- PMID: 38295125
- DOI: [10.1097/ACI.0000000000000970](https://doi.org/10.1097/ACI.0000000000000970)

Abstract

Purpose of review: This review explores the evolving landscape of pediatric asthma and rhinitis, focusing on identifying and characterizing different subtypes.

Recent findings: Childhood asthma and rhinitis are prevalent respiratory conditions frequently occurring together. To address the need for a precise definition of these diseases, an unbiased and comprehensive phenotyping approach has been undertaken with hypothesis-free analysis of extensive datasets to uncover new relationships among clinical, environmental, and biological characteristics. On the other hand, the concept of endotype is elaborate and multifaceted, representing distinct pathophysiological mechanisms underlying the clinical presentation and requires the identification of reliable biomarkers. The recognition of multiple inflammatory endotypes underscores the need for in-depth characterization, which could revolutionize the treatment landscape.

Summary: Comprehending phenotypes and endotypes is crucial for customizing effective and personalized management approaches for children with asthma and rhinitis. More precise and efficient care can be administered through recognition and detailed characterization, ultimately enhancing patients' quality of life.

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Minerva Pediatr (Torino)

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. 2024 Jan 30.

doi: 10.23736/S2724-5276.24.07534-7. Online ahead of print.

Assessment of the perception of nasal breathing using Visual Analog Scale in children with newly diagnosed allergic rhinitis: the link with asthma

[Maria A Tosca](#)¹, [Irene Schiavetti](#)², [Vincenzo Meleca](#)¹, [Matteo Naso](#)¹, [Chiara Trincianti](#)¹, [Giorgio Ciprandi](#)³

Affiliations expand

- PMID: 38289241
- DOI: [10.23736/S2724-5276.24.07534-7](https://doi.org/10.23736/S2724-5276.24.07534-7)

No abstract available

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Environ Sci Technol

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. 2024 Jan 30;58(4):1813-1822.

doi: 10.1021/acs.est.3c05532. Epub 2024 Jan 18.

Modification of Food Allergy on the Associations between Early Life Exposure to Size-Specific Particulate Matter and Childhood Allergic Rhinitis

[Chuansha Wu](#)^{1,2}, [Haoran Tang](#)^{1,2}, [Jing Wei](#)³, [Hao Chen](#)^{1,2}, [Zhuohui Zhao](#)⁴, [Dan Norbäck](#)⁵, [Xin Zhang](#)⁶, [Chan Lu](#)⁷, [Wei Yu](#)⁸, [Tingting Wang](#)⁹, [Xiaohong Zheng](#)¹⁰, [Rui Li](#)¹¹, [Yunquan Zhang](#)^{2,12}, [Ling Zhang](#)^{1,2}

Affiliations expand

- PMID: 38237043
- DOI: [10.1021/acs.est.3c05532](https://doi.org/10.1021/acs.est.3c05532)

Abstract

Previous studies have reported the association between particulate matter (PM) and childhood allergic rhinitis (AR). However, it is unclear whether food allergy (FA) modifies the PM-AR association. We aimed at evaluating the effect of the modification of FA on PM-AR association in preschool children. We adopted a cross-sectional study and conducted a questionnaire survey among preschool children aged 3-6 years in 7 cities in China from June 2019 to June 2020 to collect information on AR and FA. We used a combination of multilevel logistic regression and restricted cubic spline functions to quantitatively assess whether FA modifies the associations between size-specific PM exposure (1 × 1 km) and the risk of AR. The adjusted odds ratios (ORs) for AR among the children with FA as per a 10 µg/m³ increase in early life PM₁, PM_{2.5}, and PM₁₀ were significantly higher than the corresponding ORs among the children without FA [e.g., OR: 1.58, 95% CI: (1.32, 1.90) vs 1.29, 95% CI: (1.18, 1.41), per 10 µg/m³ increase in PM₁]. The interactions between FA and size-specific PM exposure and their effects on AR were statistically significant (all *p*-int < 0.001). FA, as an important part of the allergic disease progression, may modify the PM-AR association in preschool children.

Keywords: PM1; PM2.5; allergic rhinitis; food allergy; modification.

SUPPLEMENTARY INFO

MeSH terms, Substances expand

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J Allergy Clin Immunol Glob

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. 2023 Nov 23;3(1):100197.

doi: 10.1016/j.jacig.2023.100197. eCollection 2024 Feb.

Long-term health care resource and cost savings with allergy immunotherapy: REACT study results

[Benedikt Fritzsching](#)¹, [Celeste Porsbjerg](#)², [Marco Contoli](#)³, [Sarah Buchs](#)⁴, [Julie Rask Larsen](#)⁵, [Nick Freemantle](#)⁶

Affiliations expand

- PMID: 38226187
- PMCID: [PMC10788282](#)
- DOI: [10.1016/j.jacig.2023.100197](#)

Free PMC article

Abstract

Background: Allergy immunotherapy (AIT) can be administered as subcutaneous immunotherapy (SCIT) injections in the clinic or as sublingual immunotherapy (SLIT) tablets

at home after initiation under medical supervision. To achieve long-term, sustained effects, a 3-year treatment duration is recommended.

Objective: Our aim was to assess the association of AIT (SCIT and SLIT tablets) with long-term health care resource use (HRU) and costs in subjects with allergic rhinitis.

Methods: REACT was a retrospective propensity score-matched cohort study using claims data from a German health insurance database (2007-2017), with up to 9 years of follow-up after AIT initiation. HRU and costs were evaluated for hospitalizations, ambulatory care visits, and prescriptions, in subjects who received AIT versus in matched controls with allergic rhinitis who had not received AIT, as well as for SCIT and SLIT tablets.

Results: Across all 9 years, the subjects who received AIT had a significantly lower incidence of hospitalization than the controls did. Generally, proportions of subjects with ambulatory care visits and hospitalizations were lower, and length of hospitalization was shorter, for those receiving SLIT tablets than those who received SCIT. Total costs were significantly higher with AIT versus for the controls during the treatment period (years 1 to 3), driven by prescriptions and ambulatory care visits, but they were lower in years 4 to 9. During years 1 to 3, prescription costs were generally higher for SLIT tablets than for SCIT, whereas ambulatory care costs were numerically lower. In most years, hospitalization costs were numerically lower for SLIT tablets than for SCIT.

Conclusion: Initial higher HRU and costs of AIT during the expected treatment period are offset in the long term. At-home administration of SLIT tablets may further reduce ambulatory care costs.

Keywords: Allergic rhinitis; REACT; allergy immunotherapy; cost; health care resource use; real-world evidence; subcutaneous immunotherapy; sublingual immunotherapy tablet.

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Conflict of interest statement

Supported by ALK-Abelló. Disclosure of potential conflict of interest: This study was conducted and funded by ALK-Abelló. B. Fritzsching reports personal fees from ALK-Abelló and speaker honoraria from 10.13039/100004336Novartis and 10.13039/100009947Merck Sharp & Dohme. C. Porsbjerg reports grants from ALK-Abelló, as well as grants and personal fees from 10.13039/100004325AstraZeneca, 10.13039/100004330GlaxoSmithKline, Novartis, Chiesi, Sanofi, and TEVA. M. Contoli reports personal fees from ALK-Abelló; personal fees and nonfinancial support from 10.13039/100004325AstraZeneca, 10.13039/100008349Boehringer Ingelheim, Novartis, and Zambon; grants, personal fees, and nonfinancial support from Chiesi and GlaxoSmithKline; and grants from the University of Ferrara, Italy. S. Buchs and J. R. Larsen are employees of ALK-Abelló. N. Freemantle reports personal fees from AstraZeneca, Ipsen, Sanofi Aventis, Grifols, Novartis, Aimmune, Vertex, MSD, and Allergan.

- [18 references](#)
- [5 figures](#)

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Clin Drug Investig

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. 2024 Feb;44(2):123-130.

doi: 10.1007/s40261-023-01338-8. Epub 2024 Jan 9.

[A Real-World Observational Study to Evaluate the Safety and Effectiveness of Fluticasone Furoate-Oxymetazoline Fixed Dose Combination Nasal Spray in Patients with Allergic Rhinitis](#)

[Meenesh R Juvekar](#)¹, [Gauri Kapre Vaidya](#)², [Aniruddha Majumder](#)³, [Amod D Pendharkar](#)⁴, [Anthony Irudhayarajan](#)⁵, [Avijit Kundu](#)⁶, [D Ramesh](#)⁷, [J Dheeraj Kumar](#)⁸, [B Jagannatha](#)⁹, [Joseph Mathew](#)¹⁰, [Mahesh P Nikam](#)¹¹, [Madhuri Mehta](#)¹², [Neeraj Chawla](#)¹³, [Priti Hajare](#)¹⁴, [P G Chandre Gowda](#)¹⁵, [P V L N Murthy](#)¹⁶, [Suma Moni Mathew](#)¹⁷, [Makarand V Damle](#)¹⁸, [Chandra Kant](#)¹⁹, [Arun B Nair](#)²⁰, [Ashok Jaiswal](#)²¹, [Ravi T Mehta](#)²²

Affiliations expand

- PMID: 38195833
- DOI: [10.1007/s40261-023-01338-8](https://doi.org/10.1007/s40261-023-01338-8)

Abstract

Background: Allergic rhinitis (AR) has shown an increasing prevalence leading to a considerable medical and social burden. Nasal congestion is the cardinal symptom of AR, and the upper respiratory tract is most affected by this long-lasting ailment. Intranasal corticosteroids alleviate nasal congestion, along with other symptoms of AR, but their effect is not evident immediately. Oxymetazoline has a rapid onset of action, but its use should be limited to 3-5 days.

Objective: The study aimed to evaluate the safety and effectiveness of the fixed-dose combination nasal spray containing fluticasone furoate and oxymetazoline hydrochloride (FF + OXY) 27.5/50 mcg once daily in patients with AR in a real-world clinical setting.

Methods: The study was a prospective, open-label, single-arm, multicenter, real-world observational study conducted in patients with AR for a period of 28 days. Patients (n = 388) with a diagnosis of AR were treated with a combination of FF + OXY nasal spray. Total nasal symptom score (TNSS), total ocular symptom score (TOSS) and total symptom score (TSS) were documented at baseline and at the end of study period. The overall effectiveness of treatment with FF + OXY was rated by the investigators as very good/good/satisfactory/poor (4-point Likert scale) for each patient.

Results: Treatment with FF + OXY resulted in significant reduction in the TNSS, TOSS and TSS, from 7.18 ± 3.38 at baseline to 0.20 ± 0.84 ($p < 0.001$), from 2.34 ± 2.29 at baseline to 0.09 ± 0.53 ($p < 0.001$), from 9.51 ± 4.94 at baseline to 0.29 ± 1.32 ($p < 0.001$) at 28 days respectively. With respect to effectiveness, the investigators reported very good effectiveness in 52.12% of patients. No serious adverse events were reported.

Conclusion: The fixed-dose combination of once-daily fluticasone furoate and oxymetazoline hydrochloride nasal spray 27.5/50 mcg was effective in relieving the nasal congestion and reduction of TNSS, TOSS and TSS in patients suffering from AR. The combination was safe and well tolerated with no rebound congestion throughout the treatment period.

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Review

Curr Opin Allergy Clin Immunol

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. 2024 Feb 1;24(1):9-14.

doi: 10.1097/ACI.0000000000000960. Epub 2023 Dec 1.

Upper and lower airway interactions in children

[Fernando M de Benedictis](#)¹

Affiliations expand

- PMID: 38037885
- DOI: [10.1097/ACI.0000000000000960](https://doi.org/10.1097/ACI.0000000000000960)

Abstract

Purpose of review: The aim of the present review was to highlight the interactions between rhinitis, rhinosinusitis and asthma in children and to discuss the most relevant scientific progresses in the pathophysiology and treatment of these combined conditions.

Recent findings: Advances in understanding the mechanisms underlying the relationship between upper and lower airways have provided valuable insights into the role of eosinophils in the pathophysiology of inflammatory events and have further delineated the concept of united airway disease. Studies addressed to evaluate the burden of sinonasal system on asthma outcomes showed a parallel severity of upper and lower airway diseases. Histopathology of sinonasal tissue in patients with chronic rhinosinusitis is different in adults and children. Targeted administration of biological agents represents an effective treatment in patients with severe uncontrolled asthma, but specific trials are awaited in children with chronic sinonasal disease.

Summary: Allergic rhinitis and rhinosinusitis are important comorbidities in patients with asthma. Improved knowledge of pathogenic mechanisms of inflammation and remodelling in the sinonasal system and the lung has led to new therapeutic approaches in patients with united airway disease and opened interesting perspectives for personalized drug therapies.

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- [50 references](#)

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Publication types, MeSH termsexpand

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Review

Curr Opin Allergy Clin Immunol

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-
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. 2024 Feb 1;24(1):15-24.

doi: 10.1097/ACI.0000000000000959. Epub 2023 Nov 27.

[Chronic rhinosinusitis with nasal polyps: eosinophils versus B lymphocytes in disease pathogenesis](#)

[Harsha H Kariyawasam](#)^{1,2}, [Louisa K James](#)³

Affiliations expand

- PMID: 38018818
- DOI: [10.1097/ACI.0000000000000959](https://doi.org/10.1097/ACI.0000000000000959)

Abstract

Purpose of review: To highlight the current evidence that supports the view that eosinophils may not drive disease in chronic rhinosinusitis with nasal polyps (CRSwNP) and the emerging evidence for B cells as an important player in this disease.

Recent findings: Eosinophil depletion studies in CRSwNP do not fully support a critical role for eosinophils in CRSwNP. Almost complete eosinophil depletion with dexamipexole had no impact on polyp size reduction or clinical improvement. Anti-interleukin (IL)-5 and IL-5R α inhibition were more effective though with less clinical impact when compared to anti-immunoglobulin E (IgE) or IL-4R α inhibition strategies. As IL-5R α is also expressed on CRSwNP derived IgE+ and IgG4+ plasma cells to the same extent as eosinophils, improvements in CRSwNP with IL-5 inhibition may suggest a role for B cells over eosinophils in CRSwNP. We review both eosinophils and B cells in the context of CRSwNP and highlight the current evidence that supports an emerging role for B cells.

Summary: Despite many aspects of immunopathology in CRSwNP explainable by B cell dysfunction, B cells have so far been ignored in CRSwNP. Further work is needed, as targeting B cells may offer an exciting new therapeutic option in the future.

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- [53 references](#)

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. 2024 Feb 1;209(3):262-272.

doi: 10.1164/rccm.202305-0808OC.

Association Between T2-related Comorbidities and Effectiveness of Biologics in Severe Asthma

[Michael E Wechsler](#)¹, [Ghislaine Scelo](#)^{2,3}, [Désirée E S Larenas-Linnemann](#)⁴, [Carlos A Torres-Duque](#)^{5,6}, [Jorge Maspero](#)⁷, [Trung N Tran](#)⁸, [Ruth B Murray](#)³, [Neil Martin](#)^{8,9}, [Andrew N Menzies-Gow](#)^{10,11}, [Mark Hew](#)^{12,13}, [Matthew J Peters](#)¹⁴, [Peter G Gibson](#)^{15,16}, [George C Christoff](#)¹⁷, [Todor A Popov](#)¹⁸, [Andréanne Côté](#)¹⁹, [Celine Bergeron](#)²⁰, [Delbert Dorscheid](#)²¹, [J Mark FitzGerald](#)²², [Kenneth R Chapman](#)²³, [Louis Philippe Boulet](#)²⁴, [Mohit Bhutani](#)²⁵, [Mohsen Sadatsafavi](#)²⁶, [Libardo Jiménez-Maldonado](#)²⁷, [Mauricio Duran-Silva](#)²⁷, [Bellanid Rodriguez](#)²⁸, [Carlos Andres Celis-Preciado](#)^{29,30}, [Diana Jimena Cano-Rosales](#)²⁸, [Ivan Solarte](#)^{29,30}, [Maria Jose Fernandez-Sanchez](#)^{29,30}, [Patricia Parada-Tovar](#)⁵, [Anna von Bülow](#)³¹, [Anne Sofie Bjerrum](#)³², [Charlotte S Ulrik](#)³³, [Karin Dahl Assing](#)³⁴, [Linda Makowska Rasmussen](#)³⁵, [Susanne Hansen](#)^{36,37}, [Alan Altraja](#)³⁸, [Arnaud Bourdin](#)³⁹, [Camille Taille](#)⁴⁰, [Jeremy Charriot](#)³⁹, [Nicolas Roche](#)⁴¹, [Andriana I Papaioannou](#)⁴², [Konstantinos Kostikas](#)⁴³, [Nikolaos G Papadopoulos](#)^{44,45}, [Sundeep Salvi](#)⁴⁶, [Deirdre Long](#)⁴⁷, [Patrick D Mitchell](#)⁴⁸, [Richard Costello](#)^{49,50}, [Concetta Sirena](#)⁵¹, [Cristina Cardini](#)⁵¹, [Enrico Heffler](#)^{52,53}, [Francesca Puggioni](#)⁵², [Giorgio Walter Canonica](#)^{52,53}, [Giuseppe Guida](#)⁵⁴, [Takashi Iwanaga](#)⁵⁵, [Mona Al-Ahmad](#)⁵⁶, [Ulises García](#)⁵⁷, [Piotr Kuna](#)⁵⁸, [João A Fonseca](#)^{59,60,61}, [Riyad Al-Lehebi](#)^{62,63}, [Mariko S Koh](#)⁶⁴, [Chin Kook Rhee](#)⁶⁵, [Borja G Cosio](#)⁶⁶, [Luis Perez de Llano](#)⁶⁷, [Diahn-Warng Steve Perng](#)^{68,69}, [Erick Wan-Chun Huang](#)⁷⁰, [Hao-Chien Wang](#)⁷¹, [Ming-Ju Tsai](#)^{72,73}, [Bassam Mahboub](#)⁷⁴, [Laila Ibraheem Jaber Salameh](#)^{74,75}, [David J Jackson](#)⁷⁶, [John Busby](#)⁷⁷, [Liam G Heaney](#)⁷⁸, [Paul E Pfeffer](#)^{79,80}, [Amanda Grippen Goddard](#)⁸¹, [Eileen Wang](#)⁸², [Flavia C L Hoyte](#)⁸², [Nicholas M Chapman](#)⁸³, [Rohit Katial](#)⁸², [Victoria Carter](#)^{2,3}, [Lakmini Bulathsinhala](#)^{2,3}, [Neva Eleangovan](#)^{2,3}, [Con Ariti](#)^{2,3}, [Juntao Lyu](#)⁸⁴, [Celeste Porsbjerg](#)⁸⁵, [David B Price](#)^{2,3,86}

Affiliations expand

- PMID: 38016003
- DOI: [10.1164/rccm.202305-0808OC](https://doi.org/10.1164/rccm.202305-0808OC)

Abstract

Rationale: Previous studies investigating the impact of comorbidities on the effectiveness of biologic agents have been relatively small and of short duration and have not compared classes of biologic agents. **Objectives:** To determine the association between type 2-related comorbidities and biologic agent effectiveness in adults with severe asthma (SA). **Methods:** This cohort study used International Severe Asthma Registry data from 21 countries (2017-2022) to quantify changes in four outcomes before and after biologic therapy-annual asthma exacerbation rate, FEV₁% predicted, asthma control, and long-term oral corticosteroid daily dose-in patients with or without allergic rhinitis, chronic rhinosinusitis (CRS) with or without nasal polyps (NPs), NPs, or eczema/atopic dermatitis. **Measurements and Main Results:** Of 1,765 patients, 1,257, 421, and 87 initiated anti-IL-5/5 receptor, anti-IgE, and anti-IL-4/13 therapies, respectively. In general, pre- versus post-biologic therapy improvements were noted in all four asthma outcomes assessed, irrespective of comorbidity status. However, patients with comorbid CRS with or without NPs experienced 23% fewer exacerbations per year (95% CI, 10-35%; *P* < 0.001) and had 59% higher odds of better post-biologic therapy asthma control (95% CI, 26-102%; *P* < 0.001) than those without CRS with or without NPs. Similar estimates were noted for those with comorbid NPs: 22% fewer exacerbations and 56% higher odds of better post-biologic therapy control. Patients with SA and CRS with or without NPs had an additional FEV₁% predicted improvement of 3.2% (95% CI, 1.0-5.3; *P* = 0.004), a trend that was also noted in those with comorbid NPs. The presence of allergic rhinitis or atopic dermatitis was not associated with post-biologic therapy effect for any outcome assessed. **Conclusions:** These findings highlight the importance of systematic comorbidity evaluation. The presence of CRS with or without NPs or NPs alone may be considered a predictor of the effectiveness of biologic agents in patients with SA.

Keywords: allergic rhinitis; chronic rhinosinusitis; nasal polyposis.

Comment in

- [Do Comorbidities Influence the Response to Biologics in Severe Asthma?](#)
Pelaia C, Pelaia G, Busse W. *Am J Respir Crit Care Med.* 2024 Feb 1;209(3):233-235.
doi: 10.1164/rccm.202311-2103ED.PMID: 38064716 No abstract available.

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Rhinology



. 2024 Feb 1;62(1):13-22.

doi: 10.4193/Rhin23.220.

[Biases related to periostin levels in chronic rhinosinusitis with nasal polyposis: a systematic review](#)

[O A Alanzi](#)¹, [W F AlBlaies](#)¹, [I A Elnadif](#)¹, [M G Riga](#)¹

Affiliations expand

- PMID: 37905726
- DOI: [10.4193/Rhin23.220](https://doi.org/10.4193/Rhin23.220)

Abstract

Background: The role of periostin in the pathophysiology of chronic rhinosinusitis with nasal polyposis (CRSwNP) has been debated in the literature, with several authors proposing periostin as a potential biomarker or therapeutic target. However, the mechanisms regulating the systematic or local periostin production in both CRSwNP patients and controls remain elusive.

Methodology: Any factors reported to affect periostin expression in polyp tissue samples, nasal mucosa samples, serum and nasal secretions were considered as primary outcomes in this systematic review. Interactions or synergistic effects between bias factors were considered as secondary outcomes.

Results: Eosinophilic CRSwNP, large polyp size and radiological severity were found to be high-risk, positive bias factors for periostin levels in polyp tissue samples, while the role of atopy and asthma has been debated. Immunotherapy and eosinophilic endotype were identified as biases for serum periostin measurements, while steroids and non-steroidal

anti-inflammatory drug exacerbated respiratory disease remain of unclear risk. Bronchial asthma, eosinophilic endotype and immunotherapy have been reported to bias periostin measurements in nasal secretions.

Conclusions: The relevant literature is extremely limited and little is actually known about the intrinsic or extrinsic factors affecting periostin measurements. The synthesis of the existing literature should be done with cautiousness.

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Rhinology



. 2024 Feb 1;62(1):63-70.

doi: 10.4193/Rhin23.128.

[Trigeminal cold receptors and airflow perception are altered in chronic rhinosinusitis](#)

[C Migneault-Bouchard](#)¹, [K Lagueux](#)², [J W Hsieh](#)³, [M Cyr](#)², [B N Landis](#)³, [J Frasnelli](#)⁴

Affiliations expand

- PMID: 37772829

- DOI: [10.4193/Rhin23.128](https://doi.org/10.4193/Rhin23.128)

Abstract

Background: In chronic rhinosinusitis (CRS), nasal obstruction can often be explained by anatomical deformities, polyps, or congested nasal mucosa. However, in cases with little deformity or inflammation, perceived nasal obstruction may result from reduced airflow perception caused by an alteration of the intranasal trigeminal system. The aim of this study was to assess this association.

Methodology: We performed a prospective case-control study of 15 CRS patients, 18 patients with a deviated nasal septum (DNS) and 16 healthy controls. We assessed olfactory function using the Sniffin' Sticks test and Visual Analog Scales (VAS). We used the Trigeminal Lateralization Task (TLT) with eucalyptol and cinnamaldehyde to examine intranasal trigeminal function. Further, we assessed nasal patency with Peak Nasal Inspiratory Flow and VAS. Finally, we measured protein levels of trigeminal receptors (TRPM8, TRPA1 and TRPV1) and inflammatory markers (IL-13, INF- γ and eosinophils) in CRS and DNS patients' mucosal biopsies using Western Blots.

Results: CRS patients had significantly lower olfactory function than DNS and healthy controls. They also had significantly lower TLT scores for eucalyptol than both other groups. CRS patients had significantly lower nasal patency than controls; for DNS patients this was limited to subjective measures of nasal patency. In line with this, CRS patients exhibited significantly higher levels of sTRPM8-18 than DNS patients.

Conclusions: Intranasal trigeminal function is decreased in CRS patients, possibly due to the overexpression of short isoforms of TRPM8 receptors.

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[Review](#)

Eur Arch Otorhinolaryngol

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. 2024 Feb;281(2):537-545.

doi: 10.1007/s00405-023-08242-z. Epub 2023 Sep 20.

Effectiveness of temperature-controlled radiofrequency neurolysis of the posterior nasal nerve to treat chronic rhinitis: a systematic review and meta-analysis

[Do Hyun Kim](#)¹, [Soo Whan Kim](#)¹, [Sung Won Kim](#)¹, [Gulnaz Stybayeva](#)², [Se Hwan Hwang](#)³

Affiliations expand

- PMID: 37728632
- DOI: [10.1007/s00405-023-08242-z](https://doi.org/10.1007/s00405-023-08242-z)

Abstract

Purpose: This systematic review and meta-analysis evaluates the effect of TRNP on rhinitis-related symptoms.

Methods: We reviewed studies retrieved from PubMed, SCOPUS, Embase, the Web of Science, and the Cochrane database to June 2023. Studies that evaluated quality-of-life and rhinitis-related symptom scores before and after treatment were analyzed, as was one sham-treatment-controlled study.

Results: In total, 406 patients evaluated in five studies were analyzed. TRNP significantly improved rhinitis-related symptoms—congestion, itching, rhinorrhea, and sneezing—for up to 12 months after treatment, compared to before treatment. The most significant symptom decreases were those of rhinorrhea and nasal congestion. Rhinitis-related symptoms had improved significantly at 3 months after TRNP, compared to sham surgery. TRNP improved disease-specific quality-of-life scores on the Rhinoconjunctivitis Quality of

Life Questionnaire at 6 months after treatment, compared to before treatment. The rates of clinical improvement in terms of all nasal symptoms (reduction > 30% from baseline) and in quality of life (minimal clinically important difference > 0.4) after TRNP were 79% and 84% respectively. There was no severe adverse event associated with either device use or the overall procedure.

Conclusions: TRNP treatment improved subjective symptoms related to rhinitis, especially rhinorrhea and nasal congestion, and also improved disease-specific quality-of-life scores.

Keywords: Equipment and supplies; Meta-analysis; Nose; Quality of life; Rhinitis.

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[Review](#)

Laryngoscope

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. 2024 Feb;134(2):507-516.

doi: 10.1002/lary.30911. Epub 2023 Jul 29.

Radiofrequency Neurolysis of the Posterior Nasal Nerve: A Systematic Review and Meta-Analysis

[Alison J Yu](#)¹, [Benjamin Tam](#)², [Bozena Wrobel](#)¹, [Kevin Hur](#)¹

Affiliations expand

- PMID: 37515507
- DOI: [10.1002/lary.30911](https://doi.org/10.1002/lary.30911)

Abstract

Objective: Temperature-controlled radiofrequency neurolysis of the posterior nasal nerve (PNN) has been approved for use since 2020. This review synthesized the published data to assess its efficacy for treatment of chronic rhinitis.

Data sources: Pubmed/Medline, Embase, Scopus, Web of Science.

Review methods: A systematic search was conducted with no restrictions on publication years in April 2023. RCTs and prospective investigations that reported the reflective Total Nasal Symptom Score (rTNSS) outcome of radiofrequency neurolysis as a single procedure in chronic rhinitis patients were included. Pooled estimates for change in rTNSS from baseline at 3 months and responder rates ($\geq 30\%$ reduction in baseline rTNSS) at 3 and 6 months were obtained. Other outcomes, such as postnasal drip and cough scores, quality of life (QoL) measures, and adverse events were included for qualitative review.

Results: Five studies were included in the systematic review, of which four were included in the meta-analysis. A total of 284 participants underwent treatment. The pooled change in rTNSS score at 3 months was -4.28 (95% CI, -5.10 to -3.46). The pooled responder rate at 3 months was 77.11% (95% CI, 68.21%-86.01%) and at 6 months 80.80% (95% CI, 70.85%-90.76%). Postnasal drip and cough scores and QoL also improved significantly at follow up. A total of 36 adverse events were reported in 21 (7.4%) patients.

Conclusions: The findings from this review suggest that temperature-controlled radiofrequency neurolysis of the PNN is effective at treating chronic rhinitis symptoms and that it has an overall favorable safety profile. *Laryngoscope*, 134:507-516, 2024.

Keywords: Rhinaer; posterior nasal nerve neurectomy; postnasal drip; radiofrequency ablation; rhinitis.

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chronic cough

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Infect Dis Ther

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. 2024 Jan 31.

doi: 10.1007/s40121-023-00912-z. Online ahead of print.

[Epidemiology of Pertussis and Pertussis-Related Complications in Adults: A German Claims Data Analysis](#)

[Bastian Surmann](#)¹, [Julian Witte](#)², [Manuel Batram](#)¹, [Carl Peter Criée](#)³, [Christiane Hermann](#)⁴, [Andreas Leischker](#)^{5,6}, [Jörg Schelling](#)⁷, [Mirko Steinmüller](#)⁸, [Klaus Wahle](#)⁹, [Alexander F Heiseke](#)¹⁰, [Pavo Marijic](#)¹⁰

Affiliations [expand](#)

- PMID: 38294623
- DOI: [10.1007/s40121-023-00912-z](https://doi.org/10.1007/s40121-023-00912-z)

Abstract

Introduction: Pertussis is a highly contagious respiratory infection. It affects people of all ages, yet evidence of the impact of pertussis in adults with underlying conditions (UCs) is scarce. This study investigated the incidence and complication rate of pertussis in adult patients with and without UC.

Methods: A retrospective analysis was conducted using routinely collected German claims data between 2015 and 2019. Patients with and without different pneumological, cardiovascular, endocrinological, musculoskeletal, and psychological UCs were matched for incidence estimation. Logistic regression models were used to estimate the risk of pertussis depending on the presence of UCs. Negative binomial models were used to assess complication rates in patients with pertussis and with and without UC.

Results: In total, 4383 patients were diagnosed with pertussis during the study period. Patients with any UC had an increased risk for pertussis compared to matched patients without UC (odds ratio [OR] 1.72; 95% confidence interval [CI] 1.60-1.84, $p < 0.0001$). Underlying asthma had the highest risk of pertussis (OR 2.70; 95% CI 2.50-2.91, $p < 0.0001$), followed by chronic obstructive pulmonary disease (OR 2.35; 95% CI 2.10-2.60, $p < 0.0001$) and depression (OR 2.08; 95% CI 1.95-2.22, $p < 0.0001$). Severe complications occurred in 10.8% of the pertussis cohort (13.4% with UC vs. 9.5% without UC). The UC-attributable effect on the risk of severe pertussis-related complications was significantly increased for any UC (incidence rate ratio [IRR] 1.29, 95% CI 1.19-1.39). The severe complication risk was also increased for patients aged 60+ (IRR 1.59, 95% CI 1.46-1.72).

Conclusion: This study shows that adults with certain UCs have an increased risk for pertussis and are more likely to have complications. These results provide further evidence that pertussis is a relevant and impactful infectious disease in adults with and without certain UC, indicating that these patients need to be considered when developing vaccination recommendations to avoid pertussis and its associated complications. A graphical abstract is available with this article.

Keywords: Comorbidity; Incidence; Older adults; Pertussis; Real world evidence; Risk factor; Whooping cough.

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Observational Study

Sci Rep



. 2024 Jan 30;14(1):2449.

doi: 10.1038/s41598-024-51522-9.

[Machine learning to identify chronic cough from administrative claims data](#)

[Vishal Bali](#)¹, [Vladimir Turzhitsky](#)², [Jonathan Schelfhout](#)², [Misti Paudel](#)³, [Erin Hulbert](#)³, [Jesse Peterson-Brandt](#)³, [Jeffrey Hertzberg](#)⁴, [Neal R Kelly](#)⁴, [Raja H Patel](#)⁴

Affiliations expand

- PMID: 38291064
- DOI: [10.1038/s41598-024-51522-9](https://doi.org/10.1038/s41598-024-51522-9)

Free article

Abstract

Accurate identification of patient populations is an essential component of clinical research, especially for medical conditions such as chronic cough that are inconsistently defined and diagnosed. We aimed to develop and compare machine learning models to identify chronic cough from medical and pharmacy claims data. In this retrospective observational study, we compared 3 machine learning algorithms based on XG Boost, logistic regression, and neural network approaches using a large claims and electronic health record database. Of the 327,423 patients who met the study criteria, 4,818 had chronic cough based on linked claims-electronic health record data. The XG Boost model showed the best performance, achieving a Receiver-Operator Characteristic Area Under

the Curve (ROC-AUC) of 0.916. We selected a cutoff that favors a high positive predictive value (PPV) to minimize false positives, resulting in a sensitivity, specificity, PPV, and negative predictive value of 18.0%, 99.6%, 38.7%, and 98.8%, respectively on the held-out testing set (n = 82,262). Logistic regression and neural network models achieved slightly lower ROC-AUCs of 0.907 and 0.838, respectively. The XG Boost and logistic regression models maintained their robust performance in subgroups of individuals with higher rates of chronic cough. Machine learning algorithms are one way of identifying conditions that are not coded in medical records, and can help identify individuals with chronic cough from claims data with a high degree of classification value.

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Publication types, MeSH termsexpand

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EClinicalMedicine

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. 2024 Jan 21:68:102423.

doi: 10.1016/j.eclinm.2024.102423. eCollection 2024 Feb.

[Prevalence of chronic cough, its risk factors and population attributable risk in the Burden of Obstructive Lung](#)

Disease (BOLD) study: a multinational cross-sectional study

[Hazim Abozid](#)^{1,2}, [Jaymini Patel](#)³, [Peter Burney](#)³, [Sylvia Hartl](#)^{2,4}, [Robab Breyer-Kohansal](#)^{2,5}, [Kevin Mortimer](#)^{6,7}, [Asaad A Nafees](#)⁸, [Mohammed Al Ghobain](#)^{9,10}, [Tobias Welte](#)¹¹, [Imed Harrabi](#)¹², [Meriam Denguezli](#)¹³, [Li Cher Loh](#)¹⁴, [Abdul Rashid](#)¹⁴, [Thorarinn Gislason](#)^{15,16}, [Cristina Barbara](#)^{17,18}, [Joao Cardoso](#)^{19,20}, [Fatima Rodrigues](#)^{18,21}, [Terence Seemungal](#)²², [Daniel Obaseki](#)^{23,24}, [Sanjay Juvekar](#)²⁵, [Stefanni Nonna Paraguas](#)²⁶, [Wan C Tan](#)²⁷, [Frits M E Franssen](#)²⁸, [Filip Mejza](#)²⁹, [David Mannino](#)^{30,31}, [Christer Janson](#)³², [Hamid Hacene Cherkaski](#)¹³, [Mahesh Padukudru Anand](#)³³, [Hasan Hafizi](#)³⁴, [Sonia Buist](#)³⁵, [Parvaiz A Koul](#)³⁶, [Asma El Sony](#)³⁷, [Marie-Kathrin Breyer](#)^{1,2}, [Otto C Burghuber](#)^{2,4}, [Emiel F M Wouters](#)^{2,28}, [Andre F S Amaral](#)^{3,38}, [BOLD Collaborative Research Group](#)

Collaborators, Affiliations expand

- PMID: 38268532
- PMCID: [PMC10807979](#)
- DOI: [10.1016/j.eclinm.2024.102423](#)

Free PMC article

Abstract

Background: Chronic cough is a common respiratory symptom with an impact on daily activities and quality of life. Global prevalence data are scarce and derive mainly from European and Asian countries and studies with outcomes other than chronic cough. In this study, we aimed to estimate the prevalence of chronic cough across a large number of study sites as well as to identify its main risk factors using a standardised protocol and definition.

Methods: We analysed cross-sectional data from 33,983 adults (≥ 40 years), recruited between Jan 2, 2003 and Dec 26, 2016, in 41 sites (34 countries) from the Burden of Obstructive Lung Disease (BOLD) study. We estimated the prevalence of chronic cough for each site accounting for sampling design. To identify risk factors, we conducted multivariable logistic regression analysis within each site and then pooled estimates using random-effects meta-analysis. We also calculated the population attributable risk (PAR) associated with each of the identified risk factors.

Findings: The prevalence of chronic cough varied from 3% in India (rural Pune) to 24% in the United States of America (Lexington, KY). Chronic cough was more common among

females, both current and passive smokers, those working in a dusty job, those with a history of tuberculosis, those who were obese, those with a low level of education and those with hypertension or airflow limitation. The most influential risk factors were current smoking and working in a dusty job.

Interpretation: Our findings suggested that the prevalence of chronic cough varies widely across sites in different world regions. Cigarette smoking and exposure to dust in the workplace are its major risk factors.

Funding: Wellcome Trust.

Keywords: Chronic cough; Epidemiology; Excess risk; Global health.

© 2024 The Author(s).

Conflict of interest statement

Fatima Rodrigues declares grants and personal fees from A. Menarini, Boehringer Ingelheim, Teva Pharma, Novartis, GlaxoSmithKline, AstraZeneca, VitalAire and Nippon Gases outside the submitted work. Wan C. Tan received grants from the Canadian Institute of Health Research (CIHR/Rx&D Collaborative Research Program Operating Grants- 93,326) with industry partners Astra Zeneca Canada Ltd., Boehringer-Ingelheim Canada Ltd, GlaxoSmithKline Canada Ltd, Merck, Novartis Pharma Canada Inc., Nycomed Canada Inc., Pfizer Canada Ltd. for conducting the longitudinal population-based Canadian Cohort of Obstructive Lung Disease (CanCOLD) study on COPD. David Mannino is a consultant to GSK, AstraZeneca, Regeneron, Genentech, COPD Foundation, and expert witness on behalf of people suing Tobacco Industry (Schlesinger Law Firm). Sonia Buist is Chair of the Data Safety & Monitoring Board for the RELIANCE Clinical Trial. Frits Franssen declares personal fees from AstraZeneca, Chiesi, GlaxoSmithKline, MSD, Pieris, and Verona Pharma. Robab Breyer-Kohansal declares consulting fees from AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline, Menarini, Novartis Pharma, and Sanofi, and participation on advisory boards for AstraZeneca, Menarini, and Sanofi. Thorarinn Gislason received a grant from the Icelandic Research Fund. Kevin Mortimer declares participation on advisory boards for AstraZeneca and GlaxoSmithKline. Sylvia Hartl declares grants from GSK, Chiesi Farma, Menarini Pharma, and AstraZeneca, and participation on advisory boards for Menarini Pharma and GSK. AFSA declares a grant from the COLT Foundation (CF/01/21).

- [53 references](#)
- [2 figures](#)

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Semin Respir Crit Care Med

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. 2024 Feb;45(1):88-101.

doi: 10.1055/s-0043-1776914. Epub 2023 Dec 28.

Chronic Pulmonary Aspergillosis: Clinical Presentation and Management

[Terry J Evans](#)¹, [AbdulAzeez Lawal](#)², [Chris Kosmidis](#)^{2,3}, [David W Denning](#)³

Affiliations expand

- PMID: 38154471
- DOI: [10.1055/s-0043-1776914](https://doi.org/10.1055/s-0043-1776914)

Abstract

Chronic pulmonary aspergillosis (CPA) refers to a number of clinical syndromes resulting from the presence and local proliferation of *Aspergillus* organisms in the lungs of patients with chronic lung disease. CPA is more common than was realized two decades ago. Recognition remains poor, despite recent studies from many countries highlighting the high prevalence in at-risk populations. In low- and middle-income countries, CPA may be misdiagnosed and treated as tuberculosis (TB). In addition, CPA may develop following successful TB treatment. The coronavirus disease pandemic has resulted in significant disruption to provision of TB care, likely leading to more extensive lung damage, which could increase the risk for CPA. Although CPA refers to various syndromes, the classic presentation is that of chronic cavitary pulmonary aspergillosis, which manifests as one or more progressive cavities with or without a fungal ball, accompanied by systemic and respiratory symptoms for at least 3 months. Diagnosis relies on *Aspergillus* immunoglobulin G in serum, as sputum culture lacks sensitivity. Differential diagnosis includes mycobacterial infection, bacterial lung abscess or necrotizing pneumonia, lung cancer, and endemic fungi. The aim of antifungal treatment in CPA is to

improve symptoms and quality of life, and to halt progression, and possibly reverse radiological changes. Current recommendations suggest treatment for 6 months, although in practice many patients remain on long-term treatment. Improvement may manifest as weight gain and improvement of symptoms such as productive cough, hemoptysis, and fatigue. Surgical management should be considered in cases of diagnostic uncertainty, in significant hemoptysis, and when there is concern for lack of response to therapy. Itraconazole and voriconazole are the first-line azoles, with more experience now accumulating with posaconazole and isavuconazole. Side effects are frequent and careful monitoring including therapeutic drug monitoring is essential. Intravenous antifungals such as echinocandins and amphotericin B are used in cases of azole intolerance or resistance, which often develop on treatment. Relapse is seen after completion of antifungal therapy in around 20% of cases, mostly in bilateral, high-burden disease. Several research priorities have been identified, including characterization of immune defects and genetic variants linked to CPA, pathogenetic mechanisms of *Aspergillus* adaptation in the lung environment, the contribution of non-*fumigatus* *Aspergillus* species, and the role of new antifungal agents, immunotherapy, and combination therapy.

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Conflict of interest statement

T.J.E. and A.L. report no conflicts. C.K. reports speaker fees from Pfizer. D.W.D. and family hold Founder shares in F2G Ltd, a University of Manchester spinout antifungal discovery company, and share options in TFF Pharma. He acts or has recently acted as a consultant to Pulmatrix, Pulmocide, Biosergen, TFF Pharmaceuticals, Pfizer, Omega, Novacyt, Rostra Therapeutics, Mucpharm, Mundipharma, LifeMine, and Cipla. He chairs a Data Review Committee for Pulmocide and as Phase 1 Medical Monitor for Biosergen. In the last 3 years, he has been paid for talks on behalf of BioRad, Basilea, and Pfizer. He is a long-standing member of the Infectious Diseases Society of America Aspergillosis Guidelines group, the European Society for Clinical Microbiology and Infectious Diseases Aspergillosis Guidelines group and recently joined the One World Guideline for Aspergillosis.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

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Review

Semin Respir Crit Care Med

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. 2024 Feb;45(1):114-127.

doi: 10.1055/s-0043-1776912. Epub 2023 Dec 28.

Clinical Manifestation and Treatment of Allergic Bronchopulmonary Aspergillosis

[Ritesh Agarwal](#)¹, [Valliappan Muthu](#)¹, [Inderpaul S Sehgal](#)¹

Affiliations expand

- PMID: 38154470
- DOI: [10.1055/s-0043-1776912](https://doi.org/10.1055/s-0043-1776912)

Abstract

Allergic bronchopulmonary aspergillosis (ABPA) is a complex hypersensitivity reaction to airway colonization by *Aspergillus fumigatus* in patients with asthma and cystic fibrosis. The pathophysiology of ABPA involves a complex interplay between the fungus and the host immune response, which causes persistent inflammation and tissue damage. Patients present with chronic cough, wheezing, and dyspnea due to uncontrolled asthma. Characteristic symptoms include the expectoration of brownish mucus plugs. Radiographic findings often reveal fleeting pulmonary infiltrates, bronchiectasis, and mucus impaction. However, the definitive diagnosis of ABPA requires a combination of clinical, radiological, and immunological findings. The management of ABPA aims to reduce symptoms, prevent disease progression, and minimize the future risk of exacerbations. The treatment approach involves systemic glucocorticoids or antifungal agents to suppress the inflammatory response or fungal growth and prevent exacerbations. Biological agents may

be used in patients with severe disease or glucocorticoid dependence. This review provides an overview of the clinical manifestations and current treatment options for ABPA.

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Conflict of interest statement

None declared.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances expand

FULL TEXT LINKS



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Case Reports

Radiol Case Rep

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. 2023 Nov 25;19(2):651-653.

doi: 10.1016/j.radcr.2023.11.009. eCollection 2024 Feb.

[An unusual case of Takayasu arteritis presenting with persistent cough in a young female patient: A case report](#)

[Yara Ameerah](#)¹, [Serin Moghrabi](#)¹, [Ahmed Awadghanem](#)^{1,2}, [Rifat Hanbali](#)³, [Mosab Maree](#)^{1,2}

Affiliations expand

- PMID: 38111545
- PMCID: [PMC10726327](#)
- DOI: [10.1016/j.radcr.2023.11.009](#)

Free PMC article

Abstract

Takayasu arteritis (TA) is a chronic granulomatous inflammatory arteritis of large vessels. Females aged 20-40 are usually affected and the manifestations can range from asymptomatic disease to major cardiovascular and neurological abnormalities. Herein, we present a case of a 20-year-old female who had a persistent cough as the initial manifestation of an underlying TA. She had a free past medical history. The patient sought medical help multiple times and took many antibiotics with no improvement. Laboratory tests showed a marked elevation in inflammatory markers so the patient was admitted for further investigations. CT scan showed a circumferential mural thickening involving mainly the descending thoracic aorta which is highly suggestive of an underlying chronic granulomatous vasculitis behind this. Our patient was treated with a combination of corticosteroid and azathioprine and showed substantial improvement after 2 weeks. TA can present with various symptoms. Therefore, patients presenting with atypical symptoms and late-onset vascular symptoms need a high degree of suspicion with close follow-up to allow early detection of any complication.

Keywords: Aorta; Case report; Cough; Immunosuppressant; Takayasu arteritis.

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- [9 references](#)
- [1 figure](#)

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Lancet Respir Med

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. 2024 Feb;12(2):129-140.

doi: 10.1016/S2213-2600(23)00340-5. Epub 2023 Dec 15.

Association of novel adult cough subclasses with clinical characteristics and lung function across six decades of life in a prospective, community-based cohort in Australia: an analysis of the Tasmanian Longitudinal Health Study (TAHS)

[Jingwen Zhang](#)¹, [Caroline J Lodge](#)¹, [E Haydn Walters](#)², [Anne B Chang](#)³, [Dinh S Bui](#)¹, [Adrian J Lowe](#)⁴, [Garun S Hamilton](#)⁵, [Paul S Thomas](#)⁶, [Chamara V Senaratna](#)¹, [Alan L James](#)⁷, [Bruce R Thompson](#)⁸, [Bircan Erbas](#)⁹, [Michael J Abramson](#)¹⁰, [Jennifer L Perret](#)¹¹, [Shyamali C Dharmage](#)¹²

Affiliations expand

- PMID: 38109918
- DOI: [10.1016/S2213-2600\(23\)00340-5](https://doi.org/10.1016/S2213-2600(23)00340-5)

Abstract

Background: Cough is a common yet heterogeneous condition. Little is known about the characteristics and course of cough in general populations. We aimed to investigate cough

subclasses, their characteristics from childhood across six decades of life, and potential treatable traits in a community-based cohort.

Methods: For our analysis of the Tasmanian Longitudinal Health Study (TAHS), a prospective, community-based cohort study that began on Feb 23, 1968, and has so far followed up participants in Tasmania, Australia, at intervals of 10 years from a mean age of 7 years to a mean age of 53 years, we used data collected as part of the TAHS to distinguish cough subclasses among current coughers at age 53 years. For this analysis, participants who answered Yes to at least one cough-related question via self-report questionnaire were defined as current coughers and included in a latent class analysis of cough symptoms; participants who answered No to all nine cough-related questions were defined as non-coughers and excluded from this analysis. Two groups of longitudinal features were assessed from age 7 years to age 53 years: previously established longitudinal trajectories of FEV₁, forced vital capacity [FVC], FEV₁/FVC ratio, asthma, and allergies-identified via group-based trajectory analysis or latent class analysis-and symptoms at different timepoints, including asthma, current productive cough, ever chronic productive cough, current smoking, and second-hand smoking.

Findings: Of 8583 participants included at baseline in the TAHS, 6128 (71.4%) were traced and invited to participate in a follow-up between Sept 3, 2012, and Nov 8, 2016; 3609 (58.9%) of these 6128 returned the cough questionnaire. The mean age of participants in this analysis was 53 years (SD 1.0). 2213 (61.3%) of 3609 participants were defined as current coughers and 1396 (38.7%) were categorised as non-coughers and excluded from the latent class analysis. 1148 (51.9%) of 2213 participants in this analysis were female and 1065 (48.1%) were male. Six distinct cough subclasses were identified: 206 (9.3%) of 2213 participants had minimal cough, 1189 (53.7%) had cough with colds only, 305 (13.8%) had cough with allergies, 213 (9.6%) had intermittent productive cough, 147 (6.6%) had chronic dry cough, and 153 (6.9%) had chronic productive cough. Compared with people with minimal cough, and in contrast to other cough subclasses, people in the chronic productive cough and intermittent productive cough subclasses had worse lung function trajectories (FEV₁ persistent low trajectory 2.9%, 6.4%, and 16.1%; $p=0.0011$, $p<0.0001$; FEV₁/FVC early low-rapid decline trajectory 2.9%, 12.1%, and 13.0%; $p=0.012$, $p=0.0007$) and a higher prevalence of cough (age 53 years 0.0%, 32.4% [26.1-38.7], and 50.3% [42.5-58.2]) and asthma (age 53 years 6.3% [3.7-10.6], 26.9% [21.3-33.3], and 41.7% [24.1-49.7]) from age 7 years to age 53 years.

Interpretation: We identified potential treatable traits for six cough subclasses (eg, asthma, allergies, and active and passive smoking for productive cough). The required management of productive cough in primary care (eg, routine spirometry) might differ from that of dry cough if our findings are supported by other studies. Future population-based studies could apply our framework to address the heterogeneity and complexity of cough in the community.

Funding: The National Health and Medical Research Council of Australia, The University of Melbourne, Clifford Craig Medical Research Trust of Tasmania, Victorian Asthma

Foundation, Queensland Asthma Foundation, Tasmanian Asthma Foundation, The Royal Hobart Hospital Research Foundation, the Helen MacPherson Smith Trust, GlaxoSmithKline, and the China Scholarship Council.

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Conflict of interest statement

Declaration of interests SCD, CJL, AJL, DSB, MJA, and JLP have investigator-initiated grants from GlaxoSmithKline. SCD, AJL, and MJA have investigator-initiated grants from Sanofi. SCD, JLP, CJL, DSB, and ABC are supported by the National Health and Medical Research Council of Australia (NHMRC). JLP is financially supported by the Australian Asthma Foundation, Craig Clifford Medical Trust, Helen McPherson Trust, and GlaxoSmithKline. AJL has received non-financial, technical support from Primus Pharmaceuticals. ABC has investigator-initiated grants from the NHMRC and the Australian Medical Research Future Fund; is a member of a data safety monitoring committee for GlaxoSmithKline, AstraZeneca, and Moderna; and was on the NHMRC Health Impact Committee, NHMRC Women in Science, and the European Respiratory Society Guideline Committee. JLP and SCD have an investigator-initiated grant from AstraZeneca. MJA has investigator-initiated grants from Pfizer and Boehringer-Ingelheim, was a consultant for Sanofi, received a speaker's fee from GlaxoSmithKline, and is an honorary member of the independent data monitoring committee for the NHMRC-funded Vietnam COPD Asthma and Prevention of Smoking 4 Trial via the Woolcock Institute. JZ is supported by The University of Melbourne and the China Scholarship Council joint PhD scholarship. All other authors declare no competing interests.

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Lancet Respir Med

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. 2024 Feb;12(2):91-93.

doi: 10.1016/S2213-2600(23)00388-0. Epub 2023 Dec 15.

Defining cough phenotypes: chronic productive cough with obstructive lung function trajectory

[Kian Fan Chung](#)¹

Affiliations expand

- PMID: 38109917
- DOI: [10.1016/S2213-2600\(23\)00388-0](https://doi.org/10.1016/S2213-2600(23)00388-0)

No abstract available

Conflict of interest statement

KFC has received research funding from GSK and Merck; honoraria for participating in advisory board meetings for Roche, Merck, Novartis, GSK, Nocion, Trevi, Shionogi, and Rickett-Beckinson; and has received fees for speaking from Novartis and AstraZeneca. KFC organised the 12th International Cough Symposium in July, 2022, which received an educational grant from Merck. KFC is on the scientific advisory board of The Clean Breathing Institute, funded by Haleon.

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Pediatr Pulmonol

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. 2024 Feb;59(2):260-262.

doi: 10.1002/ppul.26744. Epub 2023 Nov 3.

The Habit Cough Syndrome

[Miles Weinberger](#)^{1,2}, [Dennis Buettner](#)³

Affiliations expand

- PMID: 37921546
- DOI: [10.1002/ppul.26744](https://doi.org/10.1002/ppul.26744)

No abstract available

Keywords: behavioral therapy; chronic cough; habit cough; speech and language therapy; suggestion therapy.

- [20 references](#)

SUPPLEMENTARY INFO

MeSH terms, Supplementary concepts, Grants and funding expand

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[Review](#)

Laryngoscope

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. 2024 Feb;134(2):507-516.

Radiofrequency Neurolysis of the Posterior Nasal Nerve: A Systematic Review and Meta-Analysis

[Alison J Yu](#)¹, [Benjamin Tam](#)², [Bozena Wrobel](#)¹, [Kevin Hur](#)¹

Affiliations expand

- PMID: 37515507
- DOI: [10.1002/lary.30911](https://doi.org/10.1002/lary.30911)

Abstract

Objective: Temperature-controlled radiofrequency neurolysis of the posterior nasal nerve (PNN) has been approved for use since 2020. This review synthesized the published data to assess its efficacy for treatment of chronic rhinitis.

Data sources: Pubmed/Medline, Embase, Scopus, Web of Science.

Review methods: A systematic search was conducted with no restrictions on publication years in April 2023. RCTs and prospective investigations that reported the reflective Total Nasal Symptom Score (rTNSS) outcome of radiofrequency neurolysis as a single procedure in chronic rhinitis patients were included. Pooled estimates for change in rTNSS from baseline at 3 months and responder rates ($\geq 30\%$ reduction in baseline rTNSS) at 3 and 6 months were obtained. Other outcomes, such as postnasal drip and cough scores, quality of life (QoL) measures, and adverse events were included for qualitative review.

Results: Five studies were included in the systematic review, of which four were included in the meta-analysis. A total of 284 participants underwent treatment. The pooled change in rTNSS score at 3 months was -4.28 (95% CI, -5.10 to -3.46). The pooled responder rate at 3 months was 77.11% (95% CI, 68.21%-86.01%) and at 6 months 80.80% (95% CI, 70.85%-90.76%). Postnasal drip and cough scores and QoL also improved significantly at follow up. A total of 36 adverse events were reported in 21 (7.4%) patients.

Conclusions: The findings from this review suggest that temperature-controlled radiofrequency neurolysis of the PNN is effective at treating chronic rhinitis symptoms and that it has an overall favorable safety profile. *Laryngoscope*, 134:507-516, 2024.

Keywords: Rhinaer; posterior nasal nerve neurectomy; postnasal drip; radiofrequency ablation; rhinitis.

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- [21 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Grants and fundingexpand

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

1

Editorial

Ann Am Thorac Soc

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. 2024 Feb;21(2):208-210.

doi: 10.1513/AnnalsATS.202312-1018ED.

Bronchiectasis and COVID-19: For Better or for Worse?

[Chanhee Seo](#)¹, [Simarpreet Kaur](#)², [Christina S Thornton](#)^{1,2}

Affiliations expand

- PMID: 38299923

- DOI: [10.1513/AnnalsATS.202312-1018ED](https://doi.org/10.1513/AnnalsATS.202312-1018ED)

No abstract available

Comment on

- [Effect of COVID-19 on Bronchiectasis Exacerbation Rates: A Retrospective U.S. Insurance Claims Study.](#)
Åstrand A, Kiddle SJ, Siva Ganesh Mudedla R, Porwal S, Chafekar K, Agrawal S, Seminario C, Chalmers JD, Psallidas I. *Ann Am Thorac Soc.* 2024 Feb;21(2):261-270.
doi: [10.1513/AnnalsATS.202211-944OC](https://doi.org/10.1513/AnnalsATS.202211-944OC). PMID: 37962905

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Publication types, MeSH termsexpand

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Eur Respir Rev

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. 2024 Jan 31;33(171):230178.

doi: [10.1183/16000617.0178-2023](https://doi.org/10.1183/16000617.0178-2023). Print 2024 Jan 31.

[Eradication treatment for *Pseudomonas aeruginosa* infection in adults with bronchiectasis: a systematic review and meta-analysis](#)

[Mariana Conceição](#)¹, [Michal Shteinberg](#)², [Pieter Goeminne](#)³, [Josje Altenburg](#)⁴, [James D Chalmers](#)⁵

Affiliations expand

- PMID: 38296344
- DOI: [10.1183/16000617.0178-2023](https://doi.org/10.1183/16000617.0178-2023)

Free article

Abstract

Introduction: *Pseudomonas aeruginosa* is the most commonly isolated pathogen in bronchiectasis and is associated with worse outcomes. Eradication treatment is recommended by guidelines, but the evidence base is limited. The expected success rate of eradication in clinical practice is not known.

Methods: We conducted a systematic review and meta-analysis according to Meta-Analysis of Observational Studies in Epidemiology guidelines. PubMed, Embase, the Cochrane Database of Systematic Reviews and Clinicaltrials.gov were searched for studies investigating *P. aeruginosa* eradication treatment using antibiotics (systemic or inhaled) in patients with bronchiectasis. The primary outcome was the percentage of patients negative for *P. aeruginosa* at 12 months after eradication treatment. Cystic fibrosis was excluded.

Results: Six observational studies including 289 patients were included in the meta-analysis. Our meta-analysis found a 12-month *P. aeruginosa* eradication rate of 40% (95% CI 34-45%; $p < 0.00001$), with no significant heterogeneity ($I^2 = 0\%$). Combined systemic and inhaled antibiotic treatment was associated with a higher eradication rate (48%, 95% CI 41-55%) than systemic antibiotics alone (27%, 13-45%).

Conclusion: Eradication treatment in bronchiectasis results in eradication of *P. aeruginosa* from sputum in ~40% of cases at 12 months. Combined systemic and inhaled antibiotics achieve higher eradication rates than systemic antibiotics alone.

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Conflict of interest statement

Conflict of interest: M. Shteinberg reports grants or contracts from GSK and Trudell pharma; consulting fees from AstraZeneca, Boehringer Ingelheim, Dexcel, Kamada, Synchrony Medical, Trumed, and Zambon; payment or honoraria for lectures, presentations, speakers bureaus, manuscript writing, or educational events from AstraZeneca, Boehringer Ingelheim, and Kamada; support for attending meetings or travel from Boehringer Ingelheim, AstraZeneca, and Kamada; participation on a Data Safety Monitoring Board or Advisory Board for Bonus Biotherapeutics, Boehringer Ingelheim, and

AstraZeneca; leadership or fiduciary role in other board, society, committee, or advocacy groups with Israeli Pulmonology Society, Israeli Society for Tuberculosis and Mycobacterial Diseases, and EMBARC as unpaid management board member, and the European Respiratory Journal and Chest as an unpaid Editorial board member; and receipt of equipment, materials, drugs, medical writing, gifts or other services from Trudell Medical International. J.D. Chalmers reports grants or contracts from Grifols; consulting fees from Antabio, AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Grifols, Insmmed, Janssen, Novartis, Pfizer, and Zambon; and leadership or fiduciary roles as Chair of European Respiratory Society (ERS) Bronchiectasis Guideline Task Force, Chief Editor of the European Respiratory Journal, and Chair of EMBARC Clinical Research Collaboration. All other authors have nothing to disclose.

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Respirology

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. 2024 Jan 30.

doi: 10.1111/resp.14664. Online ahead of print.

[Increased exacerbations of bronchiectasis following recovery from mild COVID-19 in patients with non-cystic fibrosis bronchiectasis](#)

[Wang Chun Kwok](#)¹, [James Chung Man Ho](#)¹, [Terence Chi Chun Tam](#)¹, [Mary Sau Man Ip](#)¹, [David Chi Leung Lam](#)¹

Affiliations expand

- PMID: 38290828

- DOI: [10.1111/resp.14664](https://doi.org/10.1111/resp.14664)

Abstract

Background and objective: Respiratory viral infection is a common trigger of bronchiectasis exacerbation. Knowledge of the intermediate to long-term effect of COVID-19 on bronchiectasis is poor.

Methods: A retrospective cohort study of patient records was conducted to assess the frequency of bronchiectasis exacerbation following recovery from mild-to-moderate COVID-19. The exacerbation frequency at baseline, using 2019 and 2019-2021 data, was compared with that during the 1 year following recovery.

Results: A total of 234 adult patient records who had a confirmed diagnosis of bronchiectasis were identified, of whom 52 (22.2%) were classified as the COVID-19 group. Patients with COVID-19 had significantly more frequent annual exacerbations of bronchiectasis (total exacerbations and hospitalizations). Compared with 2019-2021 data, the total exacerbation frequency decreased by 0.1 ± 0.51 per year among non-COVID-19 patients but increased by 0.68 ± 1.09 per year among the COVID-19 group ($p < 0.001$). Compared with 2019 only data, exacerbation frequency decreased by 0.14 ± 0.79 per year among non-COVID-19 patients but increased by 0.76 ± 1.17 per year in the COVID-19 group, $p < 0.001$. The annual frequency of hospitalization for bronchiectasis increased by 0.01 ± 0.32 per year among non-COVID-19 patients and increased by 0.39 ± 1.06 per year in the COVID-19 group ($p < 0.001$) compared with 2019 to 2021 data. When compared with only 2019 data, it remained unchanged at 0 ± 0.43 per year among non-COVID-19 patients but increased to 0.38 ± 1.12 per year among COVID-19 patients ($p < 0.001$).

Conclusion: Mild-to-moderate COVID-19 was associated with an increase in frequency of bronchiectasis exacerbation and frequency of hospitalizations following recovery.

Keywords: COVID-19; bronchiectasis control; bronchiectasis exacerbation; coronavirus disease.

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- [28 references](#)

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J Allergy Clin Immunol Glob



. 2023 Nov 20;3(1):100188.

doi: 10.1016/j.jacig.2023.100188. eCollection 2024 Feb.

[Predictors of persistent poor control and validation of ASSESS score: Longitudinal 5-year follow-up of severe asthma cohort](#)

[Pei Yee Tiew](#)^{1,2,3}, [Tunn Ren Tay](#)^{3,4}, [Wenjia Chen](#)⁵, [David B Price](#)^{6,7}, [Kheng Yong Ong](#)⁸, [Sanjay H Chotirmall](#)^{2,9}, [Mariko Siyue Koh](#)^{1,3}

Affiliations expand

- PMID: 38173699
- PMCID: [PMC10762473](#)
- DOI: [10.1016/j.jacig.2023.100188](#)

Free PMC article

Abstract

Background: Longitudinal predictors of persistent poor asthma control in severe asthma (SA) cohort remain scarce. The predictive value of the asthma severity scoring system

(ASSESS) in the SA cohort outside the original study and in the Asian population is unknown.

Objective: We sought to determine the 5-year longitudinal outcome of patients with SA and validate the use of ASSESS score in predicting future outcomes in SA.

Methods: A prospective longitudinal observational study of patients with SA attending the multidisciplinary specialist SA clinic of the Singapore General Hospital from 2011 to 2021 was conducted. The number of exacerbations and asthma control test results were recorded yearly for 5 consecutive years. The ASSESS score was computed at baseline, and the area under the receiver-operating characteristic curve for predicting persistent poor asthma control was generated.

Results: Of the 489 patients recruited into the study, 306 patients with 5-year follow-up data were analyzed. Seventy-three percent had type 2 inflammation with increased overall exacerbations over 5 years (rate ratio, 2.55; 95% CI, 1.31-4.96; $P = .006$) relative to non-type 2 SA. In the multivariate model, bronchiectasis, gastroesophageal reflux disease, and an asthma control test score of less than 20 were significantly associated with persistent poor asthma control over 5 years. ASSESS scores were good at predicting persistent poor asthma control with an area under the receiver-operating characteristic curve of 0.71 (95% CI, 0.57-0.84).

Conclusions: Bronchiectasis and gastroesophageal reflux disease are predictors for persistent poor asthma control and targeted traits for precision medicine in SA. The ASSESS score has a good prediction for persistent poor asthma control over 5 years.

Keywords: ASSESS score; Asian; Severe asthma; Singapore; type 2 asthma.

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Semin Respir Crit Care Med



. 2024 Feb;45(1):114-127.

doi: 10.1055/s-0043-1776912. Epub 2023 Dec 28.

Clinical Manifestation and Treatment of Allergic Bronchopulmonary Aspergillosis

[Ritesh Agarwal](#)¹, [Valliappan Muthu](#)¹, [Inderpaul S Sehgal](#)¹

Affiliations expand

- PMID: 38154470
- DOI: [10.1055/s-0043-1776912](https://doi.org/10.1055/s-0043-1776912)

Abstract

Allergic bronchopulmonary aspergillosis (ABPA) is a complex hypersensitivity reaction to airway colonization by *Aspergillus fumigatus* in patients with asthma and cystic fibrosis. The pathophysiology of ABPA involves a complex interplay between the fungus and the host immune response, which causes persistent inflammation and tissue damage. Patients present with chronic cough, wheezing, and dyspnea due to uncontrolled asthma. Characteristic symptoms include the expectoration of brownish mucus plugs. Radiographic findings often reveal fleeting pulmonary infiltrates, bronchiectasis, and mucus impaction. However, the definitive diagnosis of ABPA requires a combination of clinical, radiological, and immunological findings. The management of ABPA aims to reduce symptoms, prevent disease progression, and minimize the future risk of exacerbations. The treatment approach involves systemic glucocorticoids or antifungal agents to suppress the inflammatory response or fungal growth and prevent exacerbations. Biological agents may be used in patients with severe disease or glucocorticoid dependence. This review provides an overview of the clinical manifestations and current treatment options for ABPA.

Conflict of interest statement

None declared.

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Observational Study

Ann Am Thorac Soc

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. 2024 Feb;21(2):261-270.

doi: 10.1513/AnnalsATS.202211-944OC.

[Effect of COVID-19 on Bronchiectasis Exacerbation Rates: A Retrospective U.S. Insurance Claims Study](#)

[Annika Åstrand](#)¹, [Steven J Kiddle](#)², [Rohith Siva Ganesh Mudedla](#)³, [Sanchita Porwal](#)³, [Kaushik Chafekar](#)³, [Shubh Agrawal](#)⁴, [Carlos Seminario](#)⁵, [James D Chalmers](#)⁶, [Ioannis Psallidas](#)⁷

Affiliations expand

- PMID: 37962905

- DOI: [10.1513/AnnalsATS.202211-944OC](https://doi.org/10.1513/AnnalsATS.202211-944OC)

Abstract

Rationale: Bronchiectasis is a chronic, progressive disease of bronchial dilation, inflammation, and scarring leading to impaired mucociliary clearance and increased susceptibility to infection. Identified causes include previous severe respiratory infections. A small, single-center UK study demonstrated a reduction in bronchiectasis exacerbations during the first year of the coronavirus disease (COVID-19) pandemic. No studies have been conducted in a U.S. (commercially insured) cohort to date. **Objectives:** To explore the impact of the COVID-19 pandemic on the frequency of exacerbations in a large cohort of commercially insured U.S. patients with bronchiectasis by testing the hypothesis that U.S. patients with bronchiectasis had fewer exacerbations during the pandemic. **Methods:** This retrospective observational cohort study used health insurance claims data from Optum's deidentified Clinformatics Data Mart database, which included U.S. patients and their covered dependents. Eligible patients were ≥ 18 years of age with bronchiectasis; patients with other respiratory conditions were excluded. The main study cohort excluded patients with frequent asthma and/or chronic obstructive pulmonary disease diagnoses. The primary objective was to compare the bronchiectasis exacerbation rates before and during the COVID-19 pandemic. **Results:** The median number of exacerbations per patient per year decreased significantly from the year before the COVID-19 pandemic to the first year of the pandemic (1 vs. 0; $P < 0.01$). More patients had zero exacerbations during the first year of the pandemic than the year prior (57% vs. 24%; McNemar's chi-square = 122.56; $P < 0.01$). **Conclusions:** In a U.S. population-based study of patients with International Classification of Diseases codes for bronchiectasis, the rate of exacerbations during Year 1 of the COVID-19 pandemic was reduced compared with the 2-year time period preceding the pandemic.

Keywords: bronchiectasis; exacerbation; pandemics; severe acute respiratory syndrome coronavirus 2.

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- [Bronchiectasis and COVID-19: For Better or for Worse?](#)
Seo C, Kaur S, Thornton CS. *Ann Am Thorac Soc.* 2024 Feb;21(2):208-210. doi: 10.1513/AnnalsATS.202312-1018ED. PMID: 38299923 No abstract available.

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