Management of severe asthma: a European Respiratory Society/American Thoracic Society guideline

Fernando Holguin 1,34, Juan Carlos Cardet 2, Kian Fan Chung 3, Sarah Diver 4, Diogenes S. Ferreira 5,6, Anne Fitzpatrick 7, Mina Gaga 8, Liz Kellermeyer 9, Sandhya Khurana 10, Shandra Knight 9, Vanessa M. McDonald 11, Rebecca L. Morgan 12, Victor E. Ortega 13, David Rigau 14, Padmaja Subbarao 15, Thomy Tonia 16, Ian M. Adcock 17, Eugene R. Bleecker 18, Chris Brightling 19, Louis-Philippe Boulet 20, Michael Cabana 21, Mario Castro 22, Pascal Chanez 23, Adnan Custovic 24, Ratko Djukanovic 25, Urs Frey 26, Betty Frankemölle 27, Peter Gibson 28, Dominique Hamerlijnck 27, Nizar Jarjour 29, Satoshi Konno 30, Huahao Shen 31, Cathy Vitary 32 and Andy Bush 33, 35

Affiliations: 1Pulmonary Sciences and Critical Care Medicine, University of Colorado, Denver, CO, USA. 2Allergy and Immunology, University of South Florida, Tampa, FL, USA. 3Experimental Studies Medicine, Imperial College London, London, UK. 4Respiratory Biomedical Unit, University of Leicester, Leicester, UK. 5Alergia e Imunologia, Complexo Hospital de Clínicas, Universidade Federal do Paraná, Curitiba, Brazil. 6School of Public Health and Preventive Medicine, Monash University, Melbourne, Australia. 7Division of Pulmonology Allergy/Immunology, Cystic Fibrosis and Sleep, Emory University, Atlanta, GA, USA. 8Respiratory Medicine Dept and Asthma Centre, Athens Chest Hospital, Athens, Greece. 9Biomedical Library, National Jewish Health, Denver, CO, USA. 10Pulmonary Diseases and Critical Care, University of Rochester, Rochester, NY, USA. 11School of Nursing, University of Newcastle, Newcastle, Australia. 12Health Research Methods, Evidence and Impact, McMaster University, Hamilton, ON, Canada. 13Pulmonary, Critical Care, Allergy and Immunologic Diseases, Wake Forest School of Medicine, Winston-Salem, NC, USA. 14Iberoamerican Cochran Centre, Barcelona, Spain. 15Dept of Pediatrics, SickKids, Toronto, ON, Canada. 16Institute of Social and Preventive Medicine, University of Bern, Bern, Switzerland. 17Molecular Cell Biology Group, National Heart and Lung Institute, Imperial College of London, London, UK. 18Division of Genetics, Genomics and Precision Medicine, University of Arizona, Tucson, AZ, USA. 19Dept of Respiratory Sciences, University of Leicester, Leicester, UK. 20Respiratory Medicine, Laval University, Quebec, QC, Canada. 21Division of General Pediatrics, University of California San Francisco, San Francisco, CA, USA. 22Division of Pulmonary and Critical Care Medicine, Washington University, St Louis, MO, USA. 23Dept of Respiratory Diseases, University of Aix-Marseille, Marseille, France. 24Paediatric Allergy, National Heart and Lung Institute, Imperial College of London, London, UK. 25Respiratory Biomedical Research, University of Southampton, Southampton, UK. 26Dept of Pediatrics, University Children’s Hospital, Basel, Switzerland. 27European Lung Foundation, Lausanne, Switzerland. 28School of Medicine and Public Health, University of Newcastle, Newcastle, Australia. 29Division of Pulmonary and Critical Care, University of Wisconsin, Madison, WI, USA. 30Dept of Respiratory Medicine, Faculty of Medicine and Graduate School of Medicine, Hokkaido University, Hokkaido, Japan. 31Dept of Respiratory and Critical Care Medicine, The Second Affiliated Hospital of Zhejiang University School of Medicine, Hangzhou, China. 32Asthma Institute, University of Pittsburgh, Pittsburgh, PA, USA. 33Dept of Paediatrics, Imperial College London, National Heart and Lung Institute, London, UK. 34F. Holguin is ATS co-chair. 35A. Bush is ERS co-chair.

Correspondence: Fernando Holguin, CU Anschutz Research Complex II, 12700 East 19th Avenue, 9C03, Aurora, CO 80045, USA. E-mail: fernando.holguin@ucdenver.edu

@ERSpublications
The ERS/ATS Task Force makes recommendations on the use of novel therapies for severe asthma, specifically biologicals for type 2 high asthma, and antimuscarinic agents and macrolides, as well as on biomarkers for predicting treatment response http://bit.ly/2KZLRA6


Copyright ©ERS 2020
ABSTRACT  This document provides clinical recommendations for the management of severe asthma. Comprehensive evidence syntheses, including meta-analyses, were performed to summarise all available evidence relevant to the European Respiratory Society/American Thoracic Society Task Force’s questions. The evidence was appraised using the GRADE (Grading of Recommendations, Assessment, Development and Evaluation) approach and the results were summarised in evidence profiles. The evidence syntheses were discussed and recommendations formulated by a multidisciplinary Task Force of asthma experts, who made specific recommendations on six specific questions. After considering the balance of desirable and undesirable consequences, quality of evidence, feasibility, and acceptability of various interventions, the Task Force made the following recommendations: 1) suggest using anti-interleukin (IL)-5 and anti-IL-5 receptor α for severe uncontrolled adult eosinophilic asthma phenotypes; 2) suggest using a blood eosinophil cut-point ≥150 μL⁻¹ to guide anti-IL-5 initiation in adult patients with severe asthma; 3) suggest considering specific eosinophil (≥260 μL⁻¹) and exhaled nitric oxide fraction (≥19.5 ppb) cut-offs to identify adolescents or adults with the greatest likelihood of response to anti-IgE therapy; 4) suggest using inhaled tiotropium for adolescents and adults with severe uncontrolled asthma despite Global Initiative for Asthma (GINA) step 4–5 or National Asthma Education and Prevention Program (NAEPP) step 5 therapies; 5) suggest a trial of chronic macrolide therapy to reduce asthma exacerbations in persistently symptomatic or uncontrolled patients on GINA step 5 or NAEPP step 5 therapies, irrespective of asthma phenotype; and 6) suggest using anti-IL-4/13 for adult patients with severe eosinophilic asthma and for those with severe corticosteroid-dependent asthma regardless of blood eosinophil levels. These recommendations should be reconsidered as new evidence becomes available.

Link to published version: https://doi.org/10.1183/13993003.00588-2019