European Respiratory Society statement on airway clearance techniques in adults with bronchiectasis

Beatriz Herrero-Cortina1,2,3, Annemarie L. Lee 4,5, Ana Oliveira 6,7,8,9, Brenda O’Neill10, Cristina Jácome 11,12, Simone Dal Corso 13,14, William Poncin 15,16,17, Gerard Muñoz18,19, Deniz Inal-Ince20, Victoria Alcaraz-Serrano 21,22, Gregory Reychler 15,16,17, Angela Bellofiore 23,24, Annette Posthumus25, Patient representative26, Thomy Tonia27, James D. Chalmers28 and Arietta Spinou 29,30

1Hospital Clínico Universitario Lozano Blesa, Zaragoza, Spain. 2Instituto de Investigación Sanitaria (IIS) Aragón, Zaragoza, Spain. 3Universidad San Jorge, Zaragoza, Spain. 4Department of Physiotherapy, Faculty of Medicine, Nursing and Health Sciences, Monash University, Frankston, Australia. 5Institute for Breathing and Sleep, Austin Health, Heidelberg, Australia. 6School of Rehabilitation Sciences, Faculty of Health Sciences, McMaster University, Hamilton, ON, Canada. 7West Park Healthcare Centre, Toronto, ON, Canada. 8Lab3R – Respiratory Research and Rehabilitation Laboratory, School of Health Sciences, University of Aveiro (ESSUA), Aveiro, Portugal. 9BiMED – Institute of Biomedicine, Department of Medical Sciences, University of Aveiro, Aveiro, Portugal. 10School of Health Sciences, Ulster University, Coleraine, UK. 11Department of Community Medicine, Information and Health Decision Sciences (MEDCIDS), University of Porto Faculty of Medicine, Porto, Portugal. 12Center for Health Technology and Services Research (CINTESIS), University of Porto Faculty of Medicine, Porto, Portugal. 13Graduate Program in Rehabilitation Sciences, Universidade Nove de Julho, São Paulo, Brazil. 14Department of Allergy, Immunology and Respiratory Medicine, Monash University, Melbourne, Australia. 15Institut de recherche expérimentale et clinique (IREC), pôle de Pneumologie, ORL et Dermatologie, Université Catholique de Louvain, Brussels, Belgium. 16Service de Pneumologie, Cliniques universitaires Saint-Luc, Brussels, Belgium. 17Secteur de Kinésithérapie et Ergothérapie, Cliniques universitaires Saint-Luc, Brussels, Belgium. 18Department of Pneumology, Dr. Josep Trueta University Hospital, Bronchiectasis Group, Girona Biomedical Research Institute, Girona, Spain. 19Department of Physical Therapy, EUSES & ENTI, University of Girona and University of Barcelona, Girona, Spain. 20Faculty of Physical Therapy and Rehabilitation, Hacettepe University, Ankara, Turkey. 21Barcelona Institute for Global Health (ISGlobal), Barcelona, Spain. 22Blanquerna School of Health Science, Ramon Llull University, Barcelona, Spain. 23Internal Medicine Department, Respiratory Unit and Cystic Fibrosis Adult Centre, Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico di Milano, Milan, Italy. 24Health and Care Professions Department, Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico di Milano, Milan, Italy. 25European Lung Foundation (ELF). 26Anonymous patient representative, European Lung Foundation (ELF). 27Institute of Social and Preventive Medicine, University of Bern, Bern, Switzerland. 28Division of Molecular and Clinical Medicine, Ninewells Hospital and Medical School, Dundee, UK. 29School of Life Course and Population Sciences, Faculty of Life Sciences and Medicine, King’s College London, London, UK. 30King’s Centre for Lung Health, King’s College London, London, UK.

Corresponding author: Arietta Spinou (arietta.spinou@kcl.ac.uk)

Shareable abstract (@ERSpublications) This ERS task force reviews the evidence for airway clearance techniques in bronchiectasis and suggests areas of further research https://bit.ly/3NaUauY


This single-page version can be shared freely online.

Abstract
Airway clearance techniques (ACTs) are part of the main management strategy for patients with bronchiectasis. Despite being a priority for patients, accessibility, implementation and reporting of ACTs are variable in clinical settings and research studies. This European Respiratory Society statement summarises current knowledge about ACTs in adults with bronchiectasis and makes recommendations to improve the future evidence base. A task force of 14 experts and two patient representatives (10 countries) determined the scope of this statement through consensus and defined six questions. The questions were answered based on systematic searches of the literature. The statement provides a comprehensive review of the physiological rationale for ACTs in adults with bronchiectasis, and the mechanisms of action along with the advantages and disadvantages of each ACT. Evidence on ACTs in clinical practice indicates that the most frequently used techniques are active cycle of breathing techniques, positive expiratory pressure...
devices and gravity-assisted drainage, although there is limited evidence on the type of ACTs used in specific countries. A review of 30 randomised trials for the effectiveness of ACTs shows that these interventions increase sputum clearance during or after treatment, reduce the impact of cough and the risk of exacerbations, and improve health-related quality of life. Furthermore, strategies for reducing the risk of bias in future studies are proposed. Finally, an exploration of patients’ perceptions, barriers and enablers related to this treatment is also included to facilitate implementation and adherence to ACTs.