



European Respiratory Society guidelines on transbronchial lung cryobiopsy in the diagnosis of interstitial lung diseases

Daniël A. Korevaar¹, Sara Colella², Markus Fally³, Juliette Camuset⁴, Thomas V. Colby⁵, Lars Hagmeyer ^{6,7}, Juergen Hetzel^{8,9}, Fabien Maldonado¹⁰, Antonio Morais ^{611,12,13}, Claudia Ravaglia^{14,15}, René Spijker^{16,17}, Sara Tomassetti ^{615,18}, Lauren K. Troy^{19,20}, Johny A. Verschakelen²¹, Athol U. Wells^{22,23}, Thomy Tonia²⁴, Jouke T. Annema^{1,25} and Venerino Poletti^{14,15,25}

¹Dept of Respiratory Medicine, Amsterdam University Medical Centers, University of Amsterdam, Amsterdam, The Netherlands. ²Pulmonary Unit, "G. Mazzini" Hospital, Teramo, Italy. ³Dept of Respiratory Medicine, Copenhagen University Hospital – Bispebjerg and Frederiksberg, Copenhagen, Denmark. ⁴Dept of Thoracic and Vascular Surgery, Tenon Hospital, AP-HP, Paris, France. ⁵Dept of Laboratory Medicine and Pathology (Emeritus), Mayo Clinic, Scottsdale, AZ, USA. ⁶Bethanien Hospital Solingen, Clinic for Pneumology and Allergology, Center for Sleep Medicine and Respiratory Care, Solingen, Germany. ⁷Institute of Pneumology, University of Cologne, Solingen, Germany. ⁸Dept of Medical Oncology and Pulmonary Medicine, University Hospital Tuebingen, Tuebingen, Germany. ⁹Dept of Internal Medicine, Division of Pneumology, Kantonssiptal Winterthur, Winterthur, Switzerland. ¹⁰Vanderbilt University Medical Center, Nashville, TN, USA. ¹¹Dept of Pulmonology, Centro Hospitalar e Universitário São João, Porto, Portugal. ¹²Faculty of Medicine, University of Porto, Porto, Portugal. ¹³Instituto de Investigação e Inovação em Saúde, University of Porto, Porto, Portugal. ¹⁴Dept of Thoracic Diseases, G.B. Morgagni Hospital and University of Bologna, Forlì, Italy. ¹⁵ERN-LUNG member. ¹⁶Medical Library, Amsterdam University Medical Centers, University of Amsterdam, Amsterdam, The Netherlands. ¹⁷Cochrane Netherlands. ¹⁸Dept of Experimental and Clinical Medicine, Careggi University Hospital and University of Florence, Florence, Italy. ¹⁹Royal Prince Alfred Hospital, Camperdown, Australia. ²⁰Sydney Medical School, University of Sydney, Sydney, Australia. ²¹Dept of Radiology, Pulmonary Radiology, University Hospitals Leuven, Belgium. ²²Interstitial Lung Disease Unit, Pulmonary Medicine, Royal Brompton Hospital, London, UK. ²³Margaret Turner Warwick Centre for Fibrosing Lung Disease, National Heart and Lung Institute, Imperial College London, London, UK. ²⁴Institute of Social and Preventi

Corresponding author: Venerino Poletti (venerino.poletti@gmail.com)



Shareable abstract (@ERSpublications) Transbronchial lung cryobiopsy provides important diagnostic information in patients with undiagnosed interstitial lung diseases https://bit.ly/3MAR4wc

Cite this article as: Korevaar DA, Colella S, Fally M, *et al*. European Respiratory Society guidelines on transbronchial lung cryobiopsy in the diagnosis of interstitial lung diseases. *Eur Respir J* 2022; 60: 2200425 [DOI: 10.1183/13993003.00425-2022].

This single-page version can be shared freely online.

Abstract

Copyright ©The authors 2022. For reproduction rights and permissions contact permissions@ersnet.org

This article has an editorial commentary: https://doi.org/10.1183/ 13993003.01648-2022

Received: 25 Feb 2022 Accepted: 7 May 2022 *Background* In patients with interstitial lung diseases (ILD), histopathological input is often required to obtain a diagnosis. Surgical lung biopsy (SLB) is considered the reference standard, but many patients are clinically unfit to undergo this invasive procedure, and adverse events, length of hospitalisation and costs are considerable. This European Respiratory Society (ERS) guideline provides evidence-based clinical practice recommendations for the role of transbronchial lung cryobiopsy (TBLC) in obtaining tissue-based diagnosis in patients with undiagnosed ILD.

Methods The ERS Task Force consisted of clinical experts in the field of ILD and/or TBLC and methodological experts. Four PICO (Patient, Intervention, Comparator, Outcomes) questions and two narrative questions were formulated. Systematic literature searches were performed in MEDLINE and Embase (up to June 2021). GRADE (Grading, Recommendation, Assessment, Development and Evaluation) methodology was applied.

Results In patients with undiagnosed ILD and an indication to obtain histopathological data: 1) TBLC is suggested as a replacement test in patients considered eligible to undergo SLB, 2) TBLC is suggested in patients not considered eligible to undergo SLB, 3) SLB is suggested as an add-on test in patients with a non-informative TBLC, 4) no recommendation is made for or against a second TBLC in patients with a

non-informative TBLC and 5) TBLC operators should undergo training, but no recommendation is made for the type of training required.

Conclusions TBLC provides important diagnostic information in patients with undiagnosed ILD. Diagnostic yield is lower compared to SLB, at reduced serious adverse events and length of hospitalisation. Certainty of the evidence is mostly "very low".