



SHAREABLE PDF

# COVID-19: interim guidance on rehabilitation in the hospital and post-hospital phase from a European Respiratory Society- and American Thoracic Society-coordinated international task force

Martijn A. Spruit <sup>1,2,3,4</sup>, Anne E. Holland<sup>5,6,7</sup>, Sally J. Singh<sup>8,9,10</sup>,  
Thomy Tonia<sup>11</sup>, Kevin C. Wilson<sup>12</sup> and Thierry Troosters<sup>13,14</sup>

**Affiliations:** <sup>1</sup>Dept of Research and Development, CIRO, Horn, The Netherlands. <sup>2</sup>NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht, The Netherlands. <sup>3</sup>Dept of Respiratory Medicine, Maastricht University Medical Centre (MUMC+), Maastricht, The Netherlands. <sup>4</sup>REVAL – Rehabilitation Research Center, BIOMED – Biomedical Research Institute, Faculty of Rehabilitation Sciences, Hasselt University, Diepenbeek, Belgium. <sup>5</sup>Dept of Allergy, Immunology and Respiratory Medicine, Monash University, Melbourne, Australia. <sup>6</sup>Dept of Physiotherapy, Alfred Health, Melbourne, Australia. <sup>7</sup>Institute for Breathing and Sleep, Melbourne, Australia. <sup>8</sup>Dept of Respiratory Science, University of Leicester, Leicester, UK. <sup>9</sup>Centre for Exercise and Rehabilitation Science, Biomedical Research Centre-Respiratory, University Hospitals of Leicester NHS Trust, Leicester, UK. <sup>10</sup>Covid Advisory Group, British Thoracic Society, London, UK. <sup>11</sup>Institute of Social and Preventive Medicine, University of Bern, Bern, Switzerland. <sup>12</sup>Division of Allergy, Pulmonary, Critical Care, and Sleep Medicine, Boston University School of Medicine, Boston, MA, USA. <sup>13</sup>KU Leuven, Dept of Rehabilitation Sciences, Leuven, Belgium. <sup>14</sup>Pulmonary Rehabilitation, University Hospital Gasthuisberg, Leuven, Belgium.

**Correspondence:** Martijn A. Spruit, Dept of Research and Development, CIRO, Hornerheide 1, 6085 NM, Horn, The Netherlands. E-mail: martijnspruit@ciro-horn.nl



@ERSpublications

**Experts recommend identification of unmet rehabilitation needs in patients with COVID-19 who are discharged from the hospital, and consequent tailored rehabilitative interventions, accompanied by compliance with the highest biosecurity standards** <https://bit.ly/3geBsPE>

**Cite this article as:** Spruit MA, Holland AE, Singh SJ, *et al.* COVID-19: interim guidance on rehabilitation in the hospital and post-hospital phase from a European Respiratory Society- and American Thoracic Society-coordinated international task force. *Eur Respir J* 2020; 56: 2002197 [<https://doi.org/10.1183/13993003.02197-2020>].

This single-page version can be shared freely online.

## ABSTRACT

**Background:** Patients with coronavirus disease 2019 (COVID-19) or post-COVID-19 will probably have a need for rehabilitation during and directly after the hospitalisation. Data on safety and efficacy are lacking. Healthcare professionals cannot wait for published randomised controlled trials before they can start these rehabilitative interventions in daily clinical practice, as the number of post-COVID-19 patients increases rapidly. The Convergence of Opinion on Recommendations and Evidence process was used to make interim recommendations for rehabilitation in the hospital and post-hospital phases in COVID-19 and post-COVID-19 patients, respectively.

**Methods:** 93 experts were asked to fill out 13 multiple-choice questions. Agreement of directionality was tabulated for each question.  $\geq 70\%$  agreement on directionality was necessary to make consensus suggestions.

**Results:** 76 (82%) experts reached consensus on all questions based upon indirect evidence and clinical experience on the need for early rehabilitation during the hospital admission, the screening for treatable traits with rehabilitation in all patients at discharge and 6–8 weeks after discharge, and around the content of

rehabilitation for these patients. It advocates for assessment of oxygen needs at discharge and more comprehensive assessment of rehabilitation needs, including physical as well as mental aspects 6–8 weeks after discharge. Based on the deficits identified, multidisciplinary rehabilitation should be offered with attention on skeletal muscle and functional as well as mental restoration.

**Conclusions:** This multinational task force recommends early, bedside rehabilitation for patients affected by severe COVID-19. The model of pulmonary rehabilitation may suit as a framework, particularly in a subset of patients with long-term respiratory consequences.