

## Respiratory therapy in the Covid-19 pandemic

The new coronavirus was first detected in the city of Wuhan, China, in late 2019. The virus infection causes Covid-19 and its main symptoms are fever, fatigue and dry cough, which can progress to dyspnea or, in graver cases, severe acute respiratory syndrome<sup>1</sup> and death. The disease spread, and on January 31, 2020, the World Health Organization declared a pandemic. Until April 25, 2020, 2,744,744 cases have been confirmed and a total of 195,707 people have died worldwide; in Brazil, the number is 58,509 cases and 4,016 deaths. So far, there is no drug treatment for Covid-19; therefore, hospital teams from the affected countries have organized themselves to deal with cases that develop the severe form of the disease.

The hospital respiratory therapist in Brazil has the autonomy to define and apply the parameters of mechanical ventilation in intubated patients<sup>2</sup>. The Brazilian Association of Cardiorespiratory Physiotherapy and Physiotherapy in Intensive Care<sup>3</sup> has published guidelines on Covid-19 recommending the use of ventilation mode controlled by volume or pressure and prone position when PaO<sub>2</sub>/FiO<sub>2</sub><150mmHg. Noninvasive ventilation (NIV) and high-flow nasal cannula, in the case of Covid-19, should not be first-line ventilation strategies. This modality has a great risk of spreading the virus due to possible failures. Moreover, the helmet-like interface is not available in Brazilian intensive care units in general. As for oxygen therapy, the use of a nasal catheter and a rebreathing mask is indicated; the use of Venturi masks and nebulization, in turn, is not recommended.

These guidelines are based on evidence from countries already affected by the pandemic. As it is a new disease, scientific research in the field of physiotherapy is being conducted. In the records of clinical trials, studies are evaluating the prone position, comparing values of positive end-expiratory pressure, telerehabilitation, the use of NIV, testing if breathing exercises can prevent Covid-19 worsening and evaluating inclined postures. None of these studies will be carried out in Brazil. Physiotherapists

at the Hospital das Clínicas of the University of São Paulo Medical School, Hospital das Clínicas of Ribeirão Preto and the Hospital do Servidor Público Estadual (IAMSPE) are involved in the front line of care for patients with Covid-19. Patient care is the priority for these professionals at this time, and despite the intense professional activity, they were trained to record patient data in a precise and detailed way, thus allowing future studies to be conducted with the database generated in these medical services.

We encourage Brazilian physiotherapists to conduct research to obtain scientific evidence of conducts that apply to the Brazilian people, based on our working conditions and the current epidemiological situation of the Covid-19 pandemic.

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### REFERENCES

1. Brasil. Ministério da Saúde. Diretrizes para diagnóstico e tratamento da Covid-19. Brasília, DF; 2020.
2. Fu C. Terapia intensiva: avanços e atualizações na atuação do fisioterapeuta. *Fisioter Pesqui.* 2018;25(3):240.
3. Associação Brasileira de Fisioterapia Cardiorrespiratória e Fisioterapia Intensiva. Covid-19: intervenção na insuficiência respiratória aguda: indicação e uso da ventilação não-invasiva e da cânula nasal de alto fluxo, e orientações sobre manejo da ventilação mecânica. invasiva no tratamento da insuficiência respiratória aguda na Covid-19. São Paulo; 2020.