

To: Out-of-bed extubation: a feasibility study

Para: Extubação fora do leito: um estudo de viabilidade

To the Editor,

We congratulate the authors on their article entitled “Out-of-bed extubation: a feasibility study”, which was published in this journal.⁽¹⁾ The issue addressed by this article is extremely important for professionals who work in intensive care units and are looking for paradigm shifts, particularly with respect to the mobilization of chronically critically ill patients.

These patients often experience muscle complications related to immobility. Puthuchery et al. evaluated 63 patients beginning 48 hours after admission to the intensive care unit (at 1, 3, 7 and 10 days) and prospectively demonstrated early changes related to both reduced muscle cross-sectional area and muscle protein metabolism. These changes in muscle, which occur early and rapidly in septic patients, are directly related to increased time on mechanical ventilation.⁽²⁾

The patient sample evaluated by Dexheimer Neto et al. consisted of septic patients; these patients were compared against patients with other pathologies (including 33 septic patients, 24 patients with cardiac insufficiency, 26 postoperative patients and 10 neurological patients), an approach that introduced bias with respect to heterogeneity.⁽¹⁾

Similar to this investigation by Dexheimer Neto et al.,⁽¹⁾ other studies have reported the effectiveness of early mobilization for seriously ill patients with respect to not only the process of removing these patients from mechanical ventilation but also reducing their length of stay in the intensive care unit. In a systematic review, Li et al. demonstrated that active mobilization protocols for mechanically ventilated patients produce positive in-hospital outcomes; thus, this approach is a safe strategy that can increase muscle strength, providing better conditions for weaning from mechanical ventilation and promoting functional independence.⁽³⁾

Relative to the new proposal for extubating chronically critically ill patients, the article addressed in this letter appears to utilize a methodological design that limits the assessment of the examined variables.

Thus, this study adds to knowledge regarding the implementation of new strategies for removing chronically critically ill patients from mechanical ventilation and demonstrates the effectiveness of participation by multidisciplinary teams with respect to the therapeutic approaches adopted for patients.⁽⁴⁾

However, it behooves us to note that the study results could be enhanced by employing a new methodological design that seeks to randomize the extubation of patients who are either lying in bed or sitting in a chair and thereby avoid potential selection bias.

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Conflicts of interest: None.

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AUTHORS' RESPONSE

Resposta dos autores

Thank you for your compliments and the opportunity to discuss not only the practices of early mobilization and out-of-bed extubation but also the incorporation of these practices into the care of critically ill patients in our country.

First, we note that the benefits of early mobilization (the mobilization of patients who have received mechanical ventilation for less than 48 hours, who compose the population examined in our study) extend to patients with various clinical conditions; in particular, early mobilization can reduce delirium durations, increase patients' functional abilities at discharge, and decrease lengths of stay in the intensive care unit and in the hospital.⁽¹⁻³⁾

We also agree that for critically ill patients, a diagnosis of sepsis is closely linked to muscle damage and to polyneuromyopathy, a highly prevalent condition among severely ill patients that is detrimental to the process of weaning patients from mechanical ventilation.^(4,5) However, because the aim of our study was to assess the effectiveness of an unprecedented practice (out-of-bed extubation), we intentionally examined a heterogeneous patient population to ensure that our findings exhibited good external validity.⁽⁶⁾

Similarly, a limitation of our study is its retrospective design, which restricts the interpretation of implications related to the safety of this new practice.⁽⁶⁾ Once again, we agree that a randomized clinical trial design and better characterization of the patient groups undergoing weaning from ventilation (septic versus non-septic, for example)

would provide stronger results; such findings have not yet been published in the literature.

Mechanically ventilated patients benefit from the use of less sedation (through sedation protocols and/or daily interruption) in combination with spontaneous breathing trials and early mobilization.⁽⁷⁻⁹⁾ Because these interventions occur concurrently, we propose that early mobilization does not delay weaning (or *vice versa*); thus, out-of-bed extubation can be regarded as a novel approach, although this treatment still needs to be validated in specific, well-designed studies.⁽⁶⁾

In conclusion, we emphasize the importance of communication and the coordination of the efforts of different specialists within a multidisciplinary team (that includes members from medical, nursing, and physiotherapy fields, among others) in attempts to improve the viability of early mobilization combined with concurrent mechanical ventilation.^(3,5,10,11)

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