

EDITORIAL

Weaning failure. Some considerations*Destete fallido de la ventilación mecánica. Algunas consideraciones*

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How to cite: Quintero Villarreal A. Weaning failure. Some considerations. Rev. Fac. Med. 2022;70(4):e110581. English. doi: <https://doi.org/10.15446/revfacmed.v70n4.110581>.

Cómo citar: Quintero Villarreal A. [Destete fallido de la ventilación mecánica. Algunas consideraciones]. Rev. Fac. Med. 2022;70(4):e110581. English. doi: <https://doi.org/10.15446/revfacmed.v70n4.110581>.

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Technology has made available to medical professionals more sophisticated mechanical ventilation and monitoring equipment for the maintenance of respiratory function. Therefore, there are increasing options for treating patients who are admitted to intensive care units (ICU) and require invasive mechanical ventilatory support, especially those with severe sepsis and septic shock.

Life support for critically ill patients is almost impossible to maintain without mechanical ventilation (MV), a life-sustaining treatment that replaces the patient's breathing for as long as it takes for their respiratory system to be able to function on its own. The purpose of MV is to maintain adequate gas exchange to ensure proper tissue oxygenation and avoid carbon dioxide retention. This therapeutic strategy is also extremely important since the main causes of admission to the ICU are respiratory and cardiac failure.

In a study carried out in Mexico, Hernández-López *et al.*¹ found that a little more than 50% of patients admitted to the ICU require mechanical ventilatory support and, of these, about 20-30% experience weaning failure, which may vary depending on epidemiological cycles and the type of demographic characteristics of the disease. Weaning or withdrawal of mechanical ventilation, as reported by Pérez-Verea *et al.*² in a study conducted in Cuba, usually involves two independent but closely related aspects: discontinuation of mechanical ventilation and removal of the endotracheal tube from the artificial airway.

To improve the ability to predict the success or failure of ventilatory weaning, protocols have been developed taking into account multiple variables. Thus, the first and most important thing to do before starting weaning is to verify that the patient meets a series of criteria that will make weaning from MV feasible, considering the underlying disease that forced the use of ventilatory support.

It is well known that airway patency and maintenance are basic aspects of life support for the critically ill patient and that, together with cardiovascular and hemodynamic support, they allow gaining time to treat the underlying cause that led to the need for MV, improve gas exchange, avoid lung injury, and reduce the work of breathing, thus reducing morbidity and mortality. Because of this, mechanical ventilation should be started early.

However, weaning is not approached in the same way; in fact, prolonging mechanical ventilation beyond the necessary time does not represent any benefit. In this regard, Enriquez-Riascos & García-Perdomo³ found that a duration of mechanical ventilatory support >7 days is the main risk factor for weaning failure, followed by a high APACHE II score on ICU admission, and a low urine output. Studies such as this one are highly relevant as they provide insight into the challenges encountered by ICU medical teams in the country and certainly confirm the importance of teamwork among the different disciplines (physical therapists, nurses, physicians, nutritionists, and psychologists) responsible for the medical care of critically ill patients.

Finally, it should be pointed out that technological innovations in the ICU have improved the clinical outcomes of patients requiring care in these services, so it is necessary to train personnel in the use of the available devices.

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