Liberation from Mechanical Ventilation 2018; Tip and Tricks

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Mechanical ventilation is an important intensive care unit management of most of the critically ill patient with acute respiratory failure from various illness. Although it is a life-saving intervention, clinicians should try to liberate patients from mechanical ventilation as early as possible to avoid the multitude of complications and risks associated with prolonged unnecessary mechanical ventilation, including ventilator induced lung injury, ventilator associated pneumonia, increased length of ICU and hospital stay, and increased cost of care delivery. There are different stages occurring in a mechanically ventilated patient from 1) treatment of acute respiratory failure, 2) suspicion that the patient may be ready for liberation, 3) assessing readiness for liberation, 4) spontaneous breathing trial, 5) extubation then discharge home, some patient may need 6) re-intubation.

Many experts suggested that weaning from mechanical ventilation, which implies the gradual withdrawal of mechanical ventilation and concomitant resumption of spontaneous breathing, is unnecessary in most patients. They proposed that the ultimate objective is not to wean but rather to liberate the patient from mechanical ventilation. Strategies to liberate patients from mechanical ventilation should be implemented as soon as the underlying cause has improved. Efficient liberation processes combine sedation optimization, early mobilization and respiratory management. Recommendations for optimizing the weaning process include use of a ventilator liberation protocol, an SBT with modest inspiratory pressure augmentation, a cuff leak test to screen for laryngeal edema, and NIV after extubation in patients at high risk of post-extubation failure.

This review highlights the recent developments in assessing and testing for readiness of liberation from mechanical ventilation, the etiology of weaning failure, the value of weaning protocols, a simple practical approach for liberation from mechanical ventilation, and the most recent international guidelines for liberation from mechanical ventilation.

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