

# Difficult Weaning from Mechanical Ventilation : What are the solutions?

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**As respiratory failure and the need for mechanical ventilatory support**



**stabilizes and begins to reverse,**

**clinical attention** shifts to the process of ventilator **withdrawal** or **discontinuation**.

In these patients, **ongoing ventilator dependency** is caused by the following **two fundamental problems**:

**(1) disease- imposed factors**, such as mechanical and/or gas exchange issues that continue to require positive pressure ventilation; and/or

**(2) clinician-imposed factors**, such as either clinician ***delay in recognizing the ability of a patient*** to have mechanical ventilation discontinued or ***inappropriate ventilator settings that overload (or underload) respiratory muscles***, Preventing recovery.

## When Should Ventilator Discontinuation Be Considered?

- underlying respiratory disease begins to stabilize and reverse

A multi-society-sponsored, evidence based task force (hereafter referred to as the ***task force1*** has ***recommended*** that a patient *should be* considered a candidate for withdrawal of ventilation **if**

- (1) the **lung injury** is **stable/resolving**;
- (2) the **gas exchange** is **adequate** with low positive end-expiratory pressure (PEEP)/fraction of inspired oxygen (FiO<sub>2</sub>) requirements (**eg**, *PEEP, 5 to 8 cm H<sub>2</sub>O*; FiO<sub>2</sub>, 0.4 to 0.5; )
- (3) hemodynamic variables are stable (**eg**, *without significant needs for therapy with* pressors); and
- (4) there is the **capability to initiate spontaneous breaths**

**This information is usually readily available, and the task force recommends that these issues be assessed daily as a “wean screen.”**

MacIntyre NR, Cook DJ, Ely EW, et al. Evidence based guidelines for weaning and discontinuing mechanical ventilation: a collective task force facilitated by the American College of Chest Physicians; the American Association for Respiratory Care; and the American College of Critical Care Medicine. *Chest* 2001; 120(suppl):375S–395S