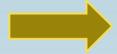
Difficult Weaning from Mechanical Ventilation : What are the solutions?

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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 (FiO₂) requirements (**eg**, *PEEP*, 5 to 8 cm H₂O; FiO₂, 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