

## Non-invasive ventilation in acute hypercapnia respiratory failure

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Noninvasive ventilation (NIV) is a valid strategy to avoid endotracheal intubation and its complications in selected patients with respiratory failure. The utilization of NIV has increased in the recent years. Some studies even reported from 35% to 52% of the patients starting ventilation in the ICU having used NIV. NIV also increases outside the ICU setting.

NIV is a cornerstone in the management of patients with acute hypercapnic respiratory failure (AHRF). The candidate for NIV is extending from AHRF to many etiologies associated respiratory failure, including but not limited to: cardiogenic pulmonary edema, acute hypoxemic respiratory failure, weaning/post-extubation failure and chronic hypercapnic respiratory failure. There remains some controversy about NIV, especially about termination (shift from NIV to intubated invasive ventilation), long-term usage and outcome.

In this section we will focus on the NIV in AHRF and discuss about the indication, limitation, advantage and adverse of NIV. We will share some clinical experiments about NIV.

Acute NIV is the established standard of care to treat hypercapnic exacerbations of COPD. However, this is an additional treatment to the maximal medical management of antibiotics, corticosteroids and nebulized beta agonists and antimuscarinic agents.

HMV for the treatment of COPD remains controversial

HMV in patients with COPD and concurrent obesity-related respiratory failure.