

**Key Points** 

NHF in combination with NIV reduced reintubation rate



## **Publication**

Thille et al. 2019. JAMA. aka the HIGH-WEAN study

What was the aim of this study?

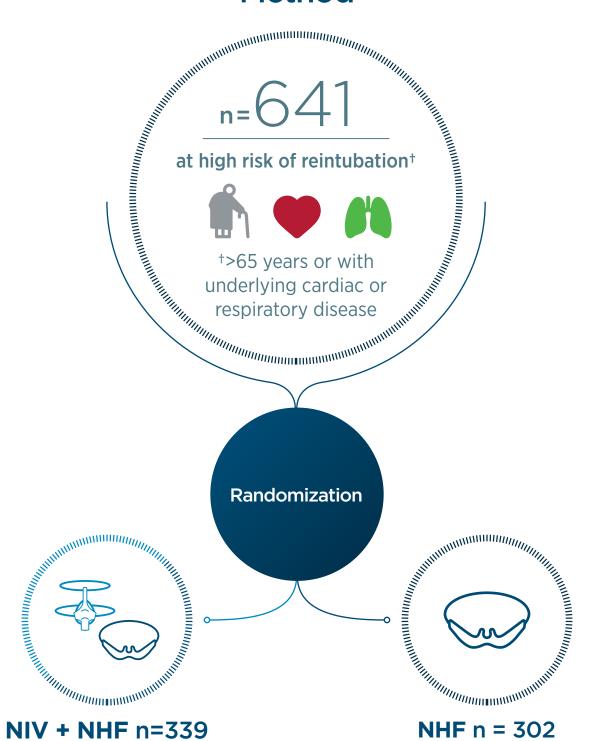
Postextubation failure is associated with significant mortality and morbidity.

This study tested the hypothesis that the combination of noninvasive ventilation (NIV) and Nasal High Flow (NHF) is a superior ventilation strategy when compared to NHF alone, in patients at high risk of postextubation failure.

i in France



## Method



Treatment application	Treatment application
<ul> <li>NIV for 1st 4 hours then ≥ 12 hours per day</li> <li>Between NIV, NHF was delivered</li> </ul>	• NHF alone for ≥ 48 hours
Treatment settings (by protocol)	Treatment settings (by protocol)
<ul> <li>PS min. 5 cmH<sub>2</sub>O, PEEP 5 to 10 cmH<sub>2</sub>O</li> <li>TV target 6 to 8 ml/kg</li> <li>FiO<sub>2</sub> titrated to a target SpO<sub>2</sub> &gt; 92%</li> </ul>	<ul> <li>Starting 50 L/min,</li> <li>Humidifier set at 37°C</li> <li>FiO<sub>2</sub> titrated to a target SpO<sub>2</sub> &gt; 92%</li> </ul>
Mean (actual) treatment settings	Mean (actual) treatment settings
<ul> <li>PS 7.8 cmH<sub>2</sub>O, PEEP 5.3 cmH<sub>2</sub>O,</li> <li>FiO<sub>2</sub> .34</li> <li>TV of 8.6 ml/kg</li> </ul>	• 50 L/min • FiO <sub>2</sub> .41

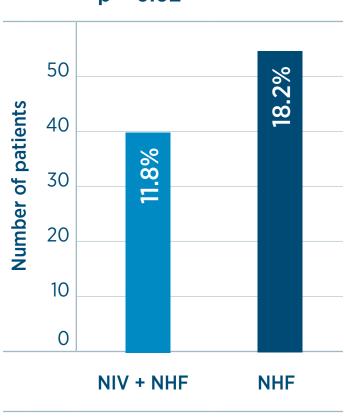


## Results

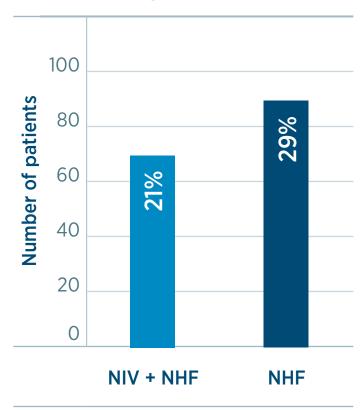
Primary Outcome



Reduced reintubation rate at day 7 (%) p = 0.02



## Reduced postextubation respiratory failure at day 7 (%) p = 0.01





No difference in ICU, hospital day 28 or day 90 mortality  $(p \ge 0.25)$ 



NHF+ NIV significantly reduced reintubation rate until ICU discharge (p = 0.009)

Further reading



