

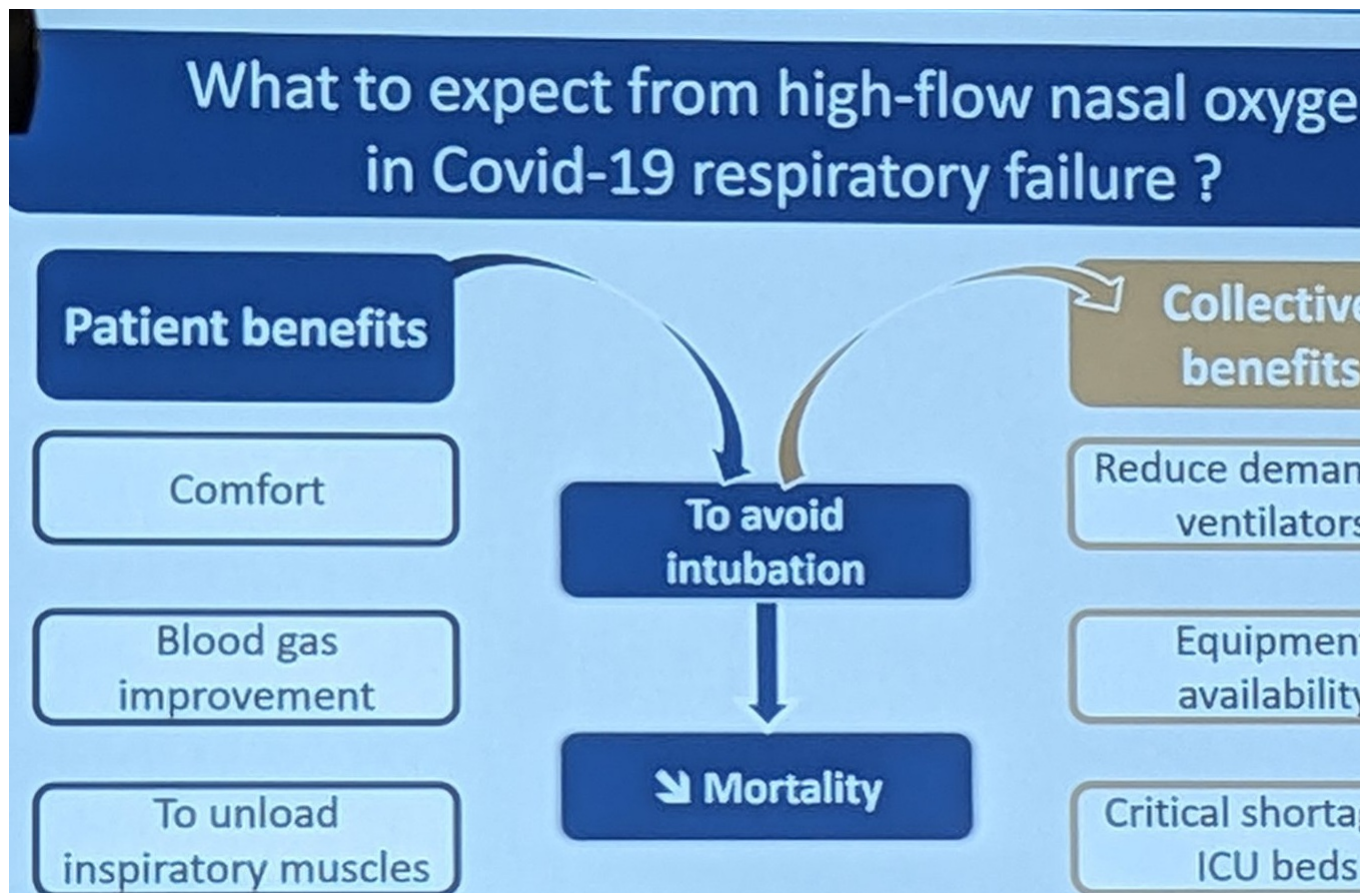


At the Presidents' Ground Breaking Research Release session at ESICM LIVES 2022 in Paris, Jean-Pierre Frat (Poitiers, France) presented the findings from the Standard Oxygen Versus High Flow Cannula Oxygen Therapy in Patients With Acute Hypoxemic Respiratory Failure (SOHO-COVID) trial.

COVID-19 has resulted in over six million deaths worldwide due to acute hypoxaemic respiratory failure. Nearly 80% of patients with COVID-19 admitted to the hospital, and 45% to ICUs were treated with standard oxygen as first-line therapy. Other noninvasive oxygenation strategies have also been proposed for COVID-19 patients with respiratory failure to avoid intubation, including high-flow nasal cannula oxygen, noninvasive ventilation with pressure support, and continuous positive airway pressure. Data from observational studies suggest a decreased risk of intubation with high-flow oxygen compared with standard oxygen. However, the benefits of high-flow nasal cannula oxygen for intubation and mortality in COVID-19 patients with respiratory failure remain controversial.

The SOHO-COVID trial aimed to evaluate whether high-flow nasal cannula oxygen reduced mortality risk compared with standard oxygen therapy in patients with respiratory failure due to COVID-19. The trial was conducted in 34 ICUs in France. It included 711 patients with COVID-19 respiratory failure and a ratio of partial pressure of arterial oxygen to fraction of inspired oxygen equal to or below 200 mm Hg.

Three hundred fifty-seven study patients received high-flow oxygen, while 354 patients received standard oxygen delivered through a nonrebreathing mask. The primary outcome of the study was mortality at day 28. Secondary outcomes included the proportion of patients requiring intubation, the number of ventilator-free days at day 28, mortality at day 90, mortality and length of stay in the ICU, and adverse events.



Results of the study show that mortality at day 28 was 10% in the high-flow oxygen group and 11% in the standard oxygen therapy group. With respect to the secondary outcomes, there were no significant differences in the length of stay, mortality in the ICU and mortality till day 90. The intubation rate was significantly lower with high-flow oxygen than with standard oxygen. The number of ventilator-free days at day 28 was not significantly different between the two groups. The most common adverse events were ventilator-associated pneumonia (VAP), which occurred in 58% of patients in the high-flow oxygen group and 53% in the standard oxygen group.

# Conclusion

- High-flow oxygen therapy is an alternative to standard oxygen in critically-ill patients with respiratory failure due to COVID-19 infection.
- High-flow oxygen reduces the risk of intubation, however there is no effect on mortality.
- These results are in accordance with recent recommendations for the use of high-flow oxygen in acute hypoxemic respiratory failure.

These results suggest that in patients with respiratory failure due to COVID-19, high-flow nasal cannula oxygen did not reduce mortality at day 28 compared with standard oxygen therapy.

Source: [JAMA](#); Presentation slides from Jean-Pierre Frat's presentation [@LIVES2022](#)  
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