



Publication

Slobod et al. 2023. Critical Care.

Effect of an asymmetrical high flow nasal cannula interface in hypoxemic patients.

Aim of the study

Investigate the impact of asymmetric nasal high flow (NHF) on minute ventilation, work of breathing and the underlying physiological mechanisms compared with symmetric NHF.



Conclusion

Asymmetric NHF reduces minute ventilation and work of breathing in patients with acute hypoxemic respiratory failure (AHRF) in the ICU.

20%

reduction in **minute ventilation** with asymmetric NHF at 60 L/min

17%

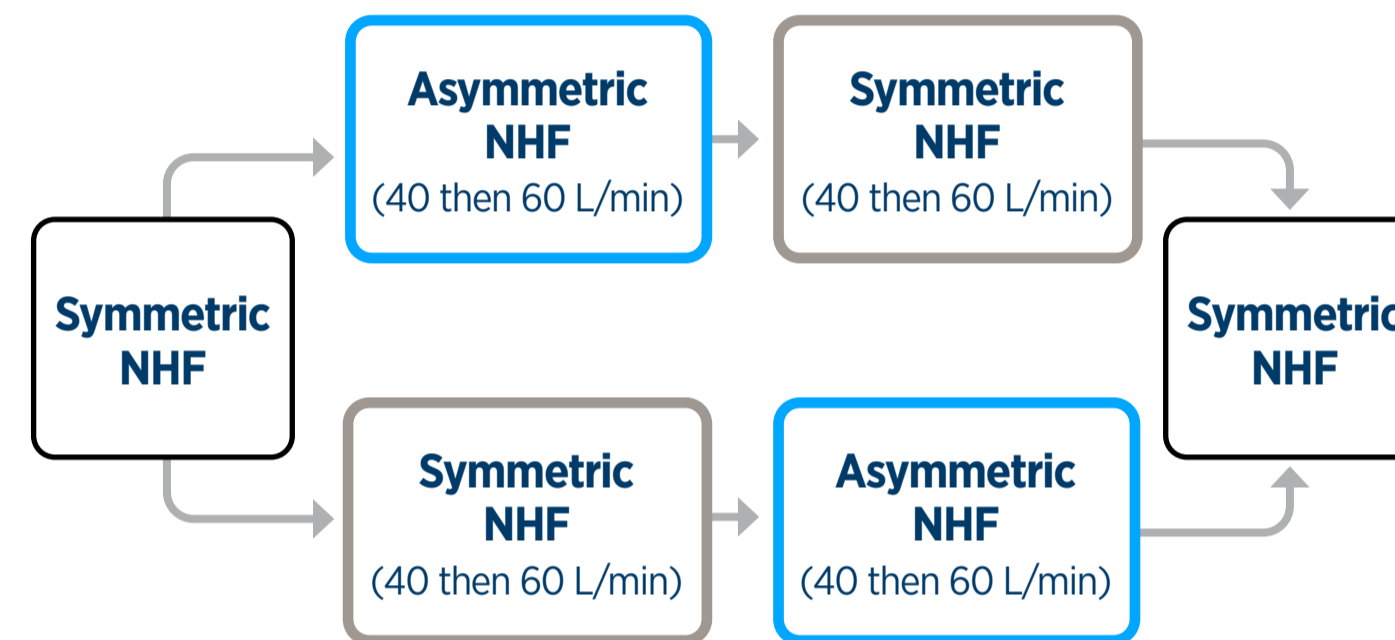
reduction in **work of breathing** with asymmetric NHF at 60 L/min



Method

STUDY DESIGN

The study was conducted as a single-center, prospective, physiologic, cross-over study at an ICU in Italy n = 10.



Inclusion

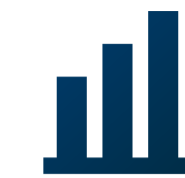
- Adults with acute mild-to-moderate hypoxemic respiratory failure within the last 7 days
- PaCO₂/FiO₂ < 300 mmHg
- Already supported on symmetric NHF

Exclusion

- Respiratory acidosis of any origin (PaCO₂ > 45 mmHg and pH < 7.3)
- Neuromuscular disease
- Contraindications to esophageal pressure monitoring
- Pregnancy

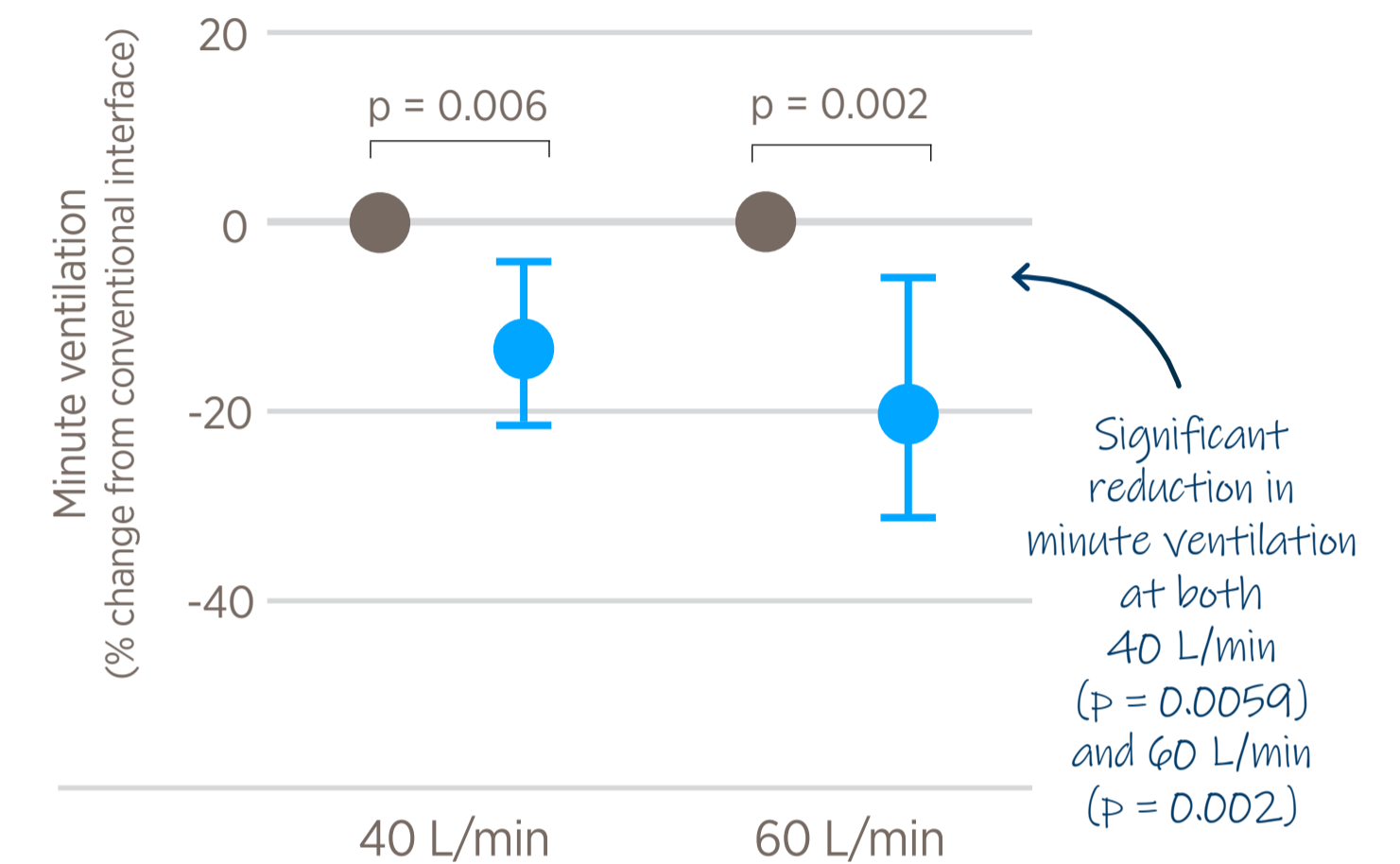


Full paper



Results

Minute ventilation in AHRF patients



Work of breathing in AHRF patients

