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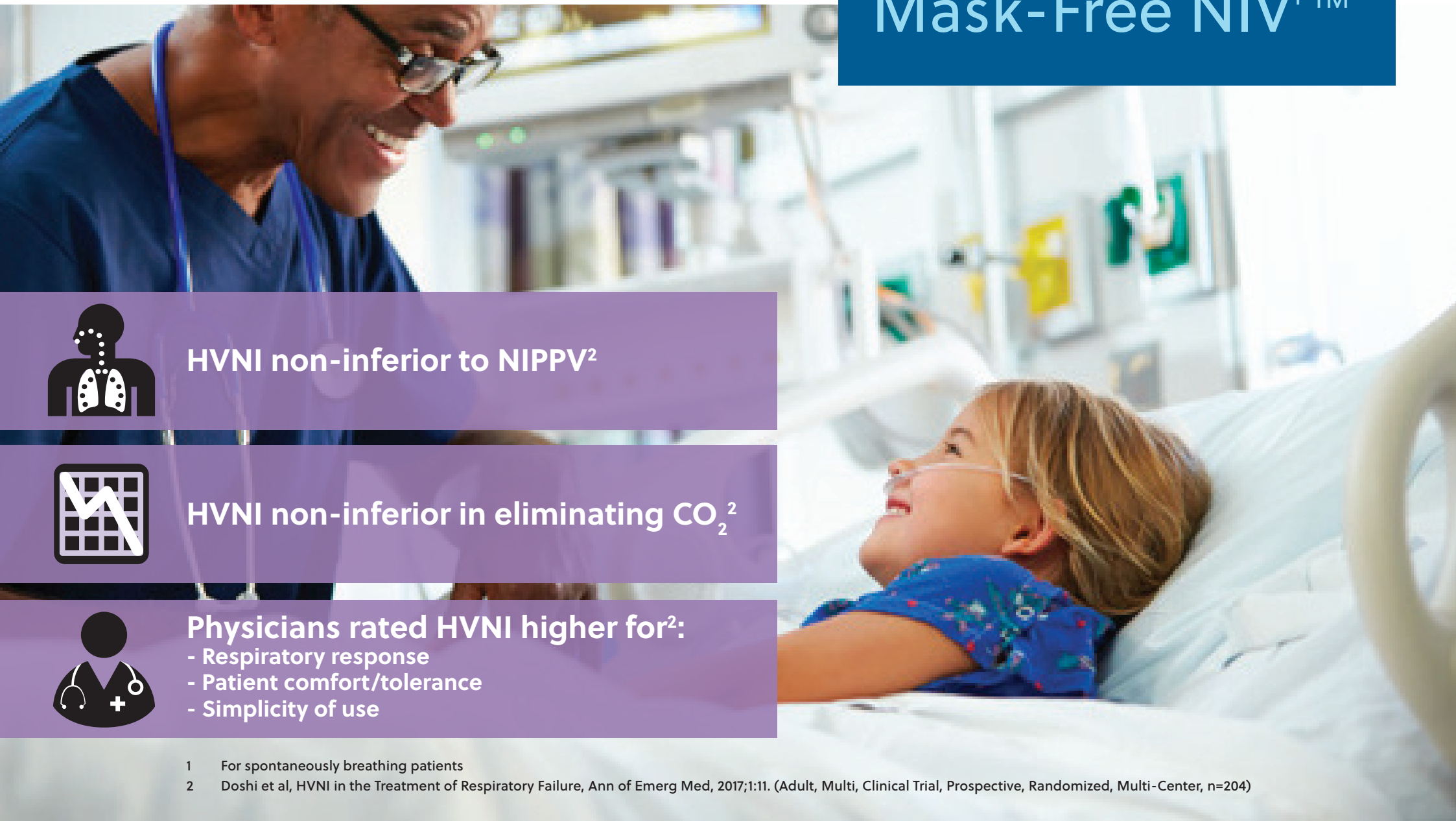
Mask-Free NIV[1] ™



HVNI non-inferior to NIPPV[2]

HVNI non-inferior in eliminating CO_2[2]

Physicians rated HVNI higher for[2]:
- Respiratory response
- Patient comfort/tolerance
- Simplicity of use

1 For spontaneously breathing patients

2 Doshi et al, HVNI in the Treatment of Respiratory Failure, Ann of Emerg Med, 2017;1:11. (Adult, Multi, Clinical Trial, Prospective, Randomized, Multi-Center, n=204)

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High Velocity Nasal Insufflation (HVNI) in the Treatment of Respiratory Failure: A Randomised Clinical Trail

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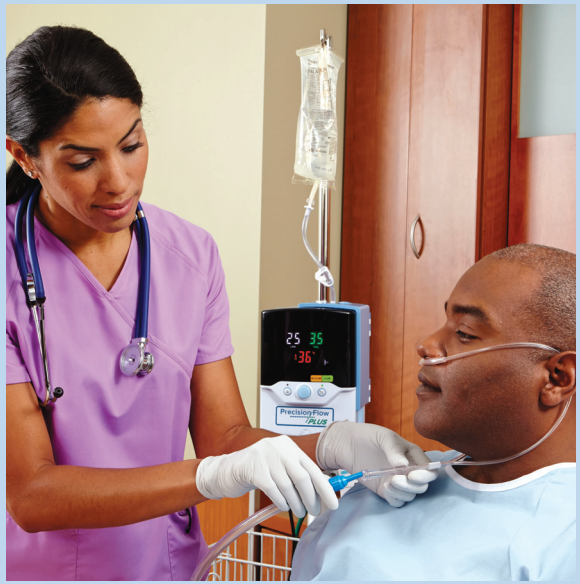
Background

High flow nasal cannula (HFNC) has been shown to be effective in the treatment of hypoxemia. High Velocity Nasal Insufflation (HVNI), a refined form of HFNC, focused on providing high velocity – highly turbulent gas flows utilising small bore nasal cannula - can additionally provide effective respiratory support to a broad group of patients suffering from undifferentiated respiratory distress.



1. Study Objective

This study was to compare HVNI to Non-Invasive Positive Pressure Ventilation (NIPPV) in the treatment of respiratory failure in acute settings.

2. Method

This study was a prospective, multi-centre randomised-controlled trial of two non-invasive ventilatory support modalities, HVNI and NIPPV. The trial was conducted at five A&E departments on adults in undifferentiated respiratory distress.[3] The primary outcome measure was therapy failure within a 72-hour period, assessed by need for intubation or cross over to the other treatment arm. Secondary outcomes included evaluation of the ability of HVNI and NIPPV to affect degree and timing of changes of indices for work of breathing.

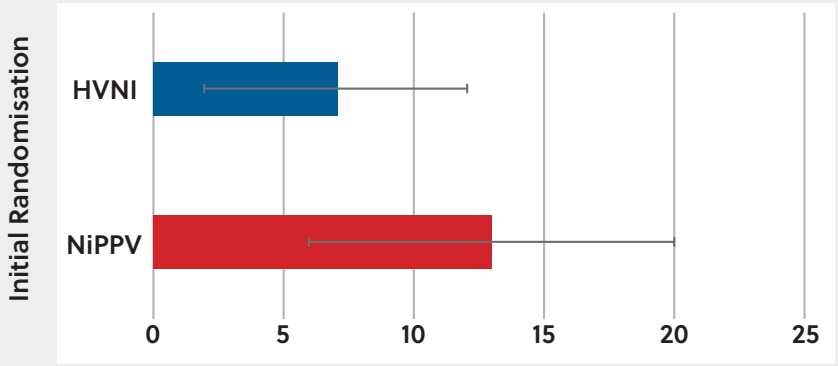
3. Results

A total of 204 patients were included in the analysis. Both the intubation rate (HVNI = 7%; NIPPV = 13%) as well as arm failure (HVNI = 26%; NIPPV = 17%) met pre-defined criteria for non- inferiority. Vital signs and blood gas analyses trended similarly between HVNI and NIPPV groups, whereas each parameter showed a significant improvement over time. Patient perception of dyspnea was not different between groups. Physicians gave superior scores for HVNI for respiratory response, patient comfort/tolerance and simplicity of use. The need for monitoring and technical clinical difficulties were rated comparably. There were no differences in A&E, ICU and overall hospital length of stay between groups.

4. Conclusion

HVNI is non-inferior to NIPPV for the treatment of undifferentiated respiratory failure in adult patients presenting at A&E departments.

% Intubated in 72 Hours



Used from Doshi et al, HVNI in the Treatment of Respiritory Failure, Ann of Emerg Med, 2017;1:11.
(Adult, Multi, Clinical Trial, Prospective, Randomised, Multi-Centre, n=204)

3 Other exclusion criteria applied.