

Improve patient safety
with Optiflow THRIVE™



Improve patient safety¹ during procedural sedation

Nasal high flow for airway management during procedural sedation

The aim of airway management during sedation is to maintain oxygenation. Drugs used for sedation and analgesia can cause respiratory depression and potential inadvertent periods of apnea.

Nasal high flow has been shown to:

- Reduce the risk of desaturation¹⁻⁴
- Reduce the incidence of airway related interventions^{1,2,5}
- Improve patient safety¹

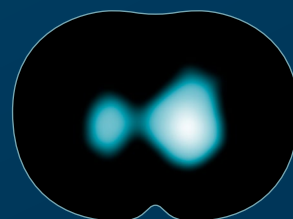


Positive airway pressure increases end expiratory lung volume⁶⁻¹⁰

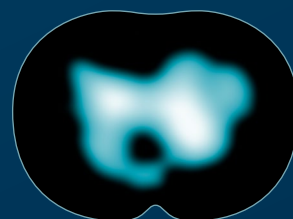
Corley et al., 2011

Nasal high flow significantly increased end-expiratory lung volume by 26% compared to low flow cannula.⁶

Low flow vs Nasal high flow (Adapted from Corley, 2011):



Low flow



Nasal high flow

Patients at risk of desaturation

Elderly

Obstructive sleep apnea (diagnosed and undiagnosed)

High Mallampati score

Lung disease

ASA Class ≥ 2

High BMI

↓ 97%

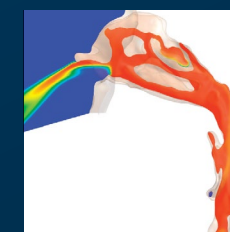
Decrease in jaw lifts² compared to standard oxygen therapy

↓ 72%

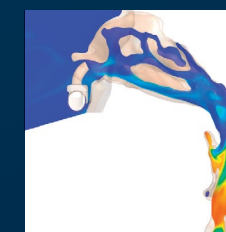
Decrease in desaturation events³ compared to standard oxygen therapy

CO₂ clearance¹¹⁻¹³

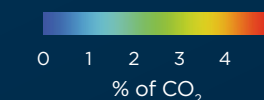
Cross-section of the upper airway immediately prior to inspiration compares CO₂ concentrations between natural breathing and Optiflow™ nasal high flow.**



Unassisted breathing



Optiflow NHF (60 L/min)



** Computational Fluid Dynamic modeling. Fisher & Paykel Healthcare. Data on file.

Improve patient safety¹⁴ during airway management

THRIVE™ for airway management during induction of general anesthesia

The principle objective of airway management during anesthesia is to maintain adequate oxygenation.

THRIVE has been shown to:

- Provide effective preoxygenation¹⁴⁻¹⁶
- Extend safe apnea time^{14,17-19}
- Improve patient safety¹⁴



Patients at risk of desaturation or may be challenging to facemask ventilate

High BMI

Elderly

Difficult airways

Mask phobia

Facial hair, e.g., beards

Edentulous

DAS difficult airway recommendation

Oxygenation is recommended during:

Preparation for difficult airway management²⁰

Unanticipated and emergency difficult airway management²⁰

Extubation of the difficult airway²¹

↑ 41%

Increase in safe apnea time¹⁹ compared to standard oxygen therapy

↑ 55%

Increase in no. of patients that reached an apnea time of 10 minutes¹⁸ compared to standard oxygen therapy

The optimal solution for airway management

F&P Optiflow
TRACE

Optiflow Filtered Nasal Interface with CO₂ Sampling

- Flexible sampling tube to detect exhaled CO₂ from either mouth or nose*.

S M L

* For flow range applicable for this product, refer to the user instructions.



F&P Optiflow
SWITCH

Optiflow Filtered Nasal Interface with Anesthesia Mask Compatibility

- Allows bag mask ventilation while the F&P Optiflow Switch™ interface is fitted to the patient.*

S M L

* While the F&P flow diverter is in use.



High-efficiency hydrophobic HEPA filter:



Minimum bacterial efficiency of at least 99.999%



Minimum viral efficiency of at least 99.996%



Heated humidification



Up to 70 L/min

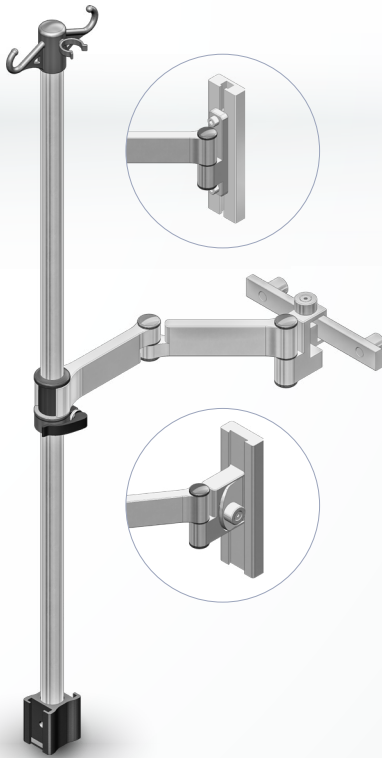


Up to 100% O₂



Multi use F&P Optiflow Oxygen Kit

- Can be used on multiple patients when combined with a filtered nasal interface*.

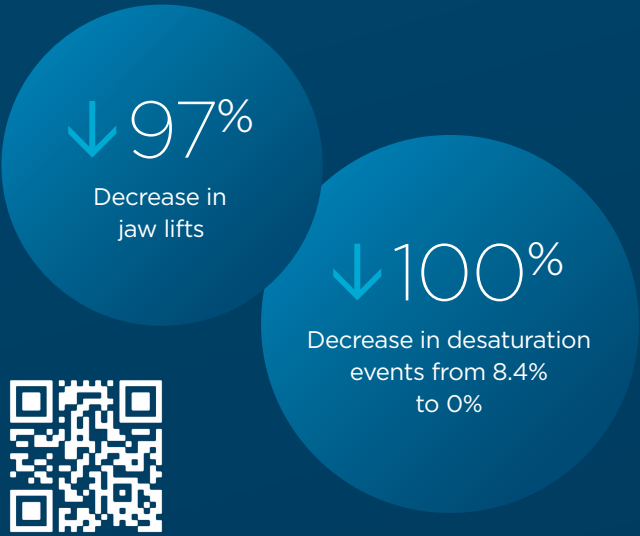
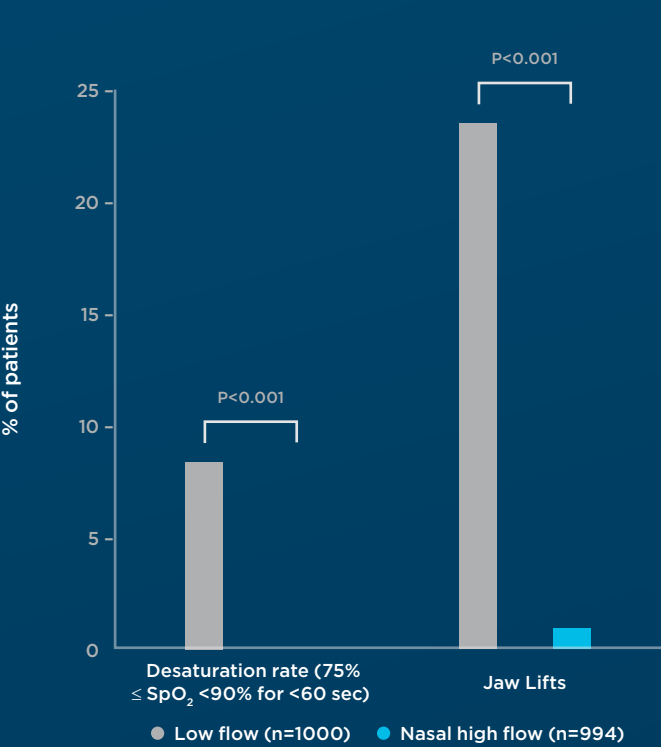


Anesthesia workstation mounting.

- Multiple mounting options available, based on the anesthesia workstation model for readily available access.

* Filtered nasal interface is single patient use only.

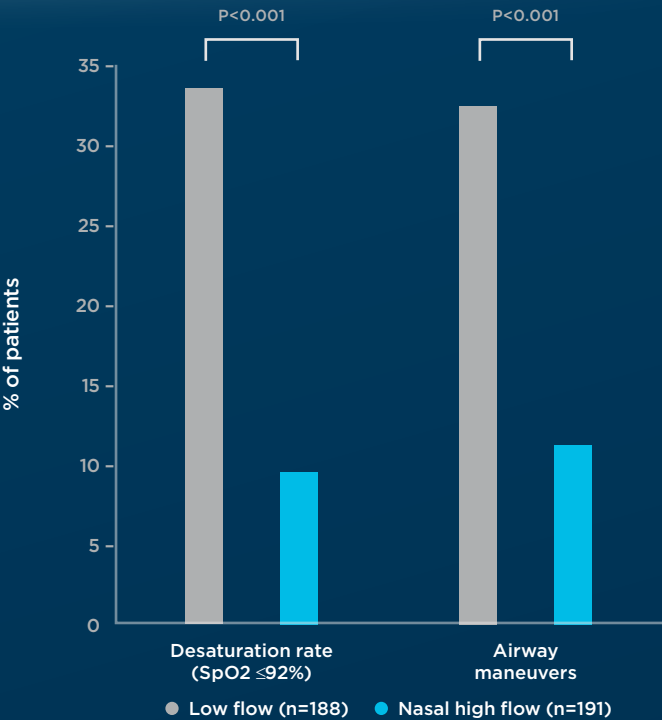
In procedural sedation, nasal high flow has been shown to provide effective oxygenation²²⁻²⁴, reduce the risk of desaturation¹⁻⁴ and airway related interventions^{1,2,5}



Lin et al., 2019 | Low risk patients
The use of nasal high flow reduced the incidence of hypoxia in patients undergoing elective gastroscopy with propofol sedation, compared to standard oxygen therapy².

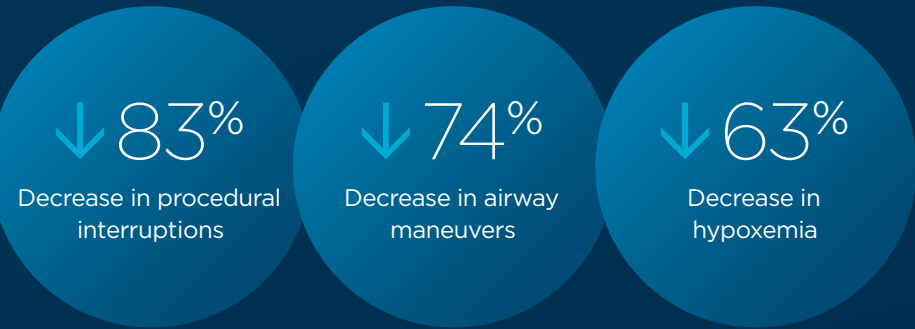
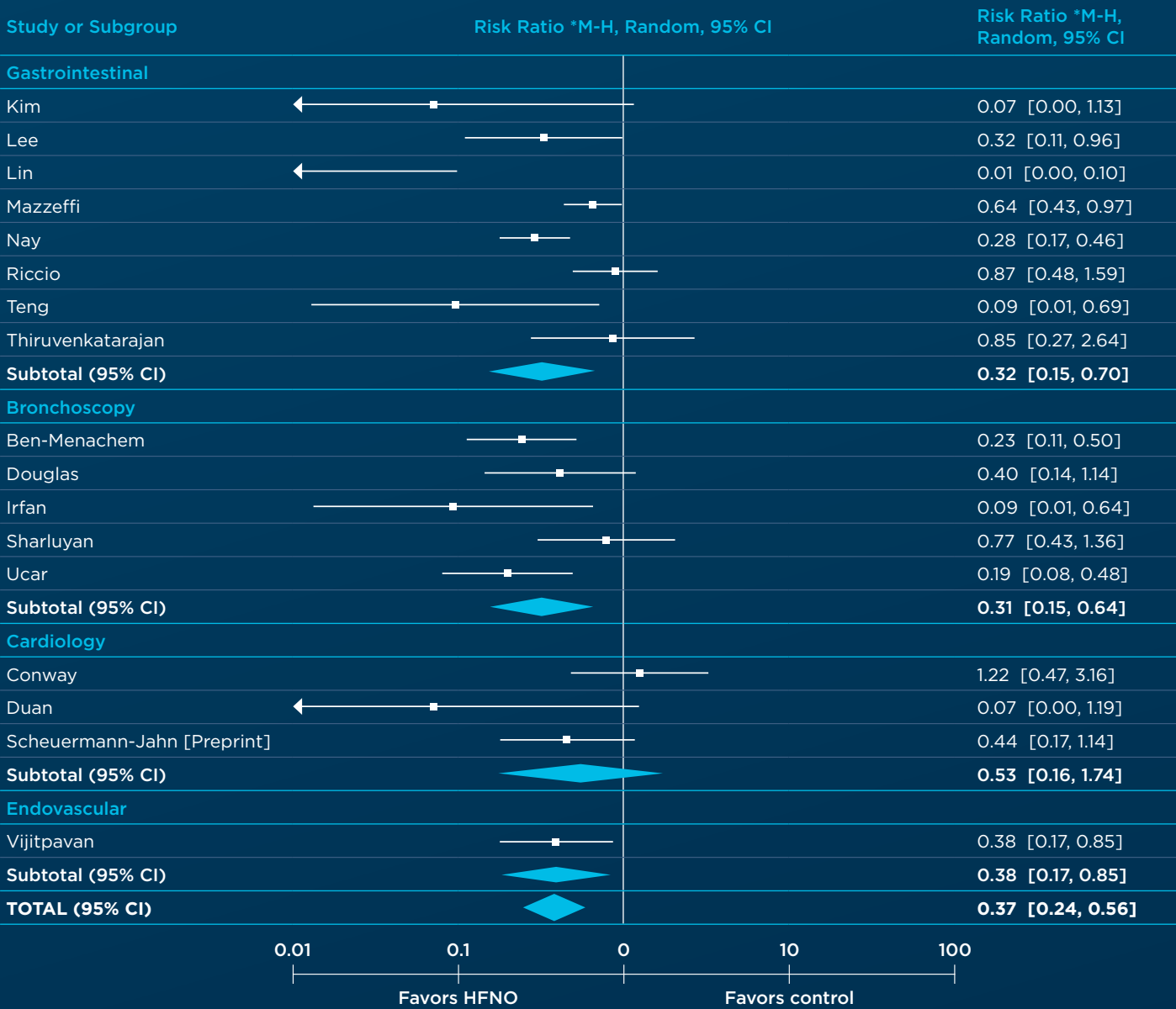


Nay et al., 2021 | High risk patients
The use of nasal high flow reduced the incidence of desaturation in patients undergoing GI endoscopy under deep sedation, compared to standard oxygen therapy⁵.



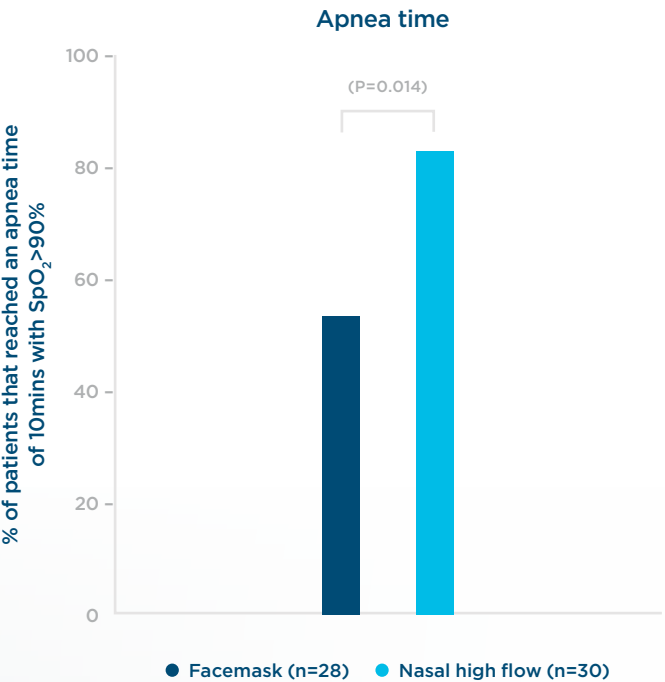
Thiruvankatarajan et al., 2023.
Meta-analysis by Thiruvankatarajan et al. demonstrated the efficacy of High Flow Nasal Oxygen (HFNO)¹ for reducing the risk of hypoxemia and requirement for airway maneuvers and interruptions¹.

Forest plot comparing risk of hypoxemia between the HFNO and control groups



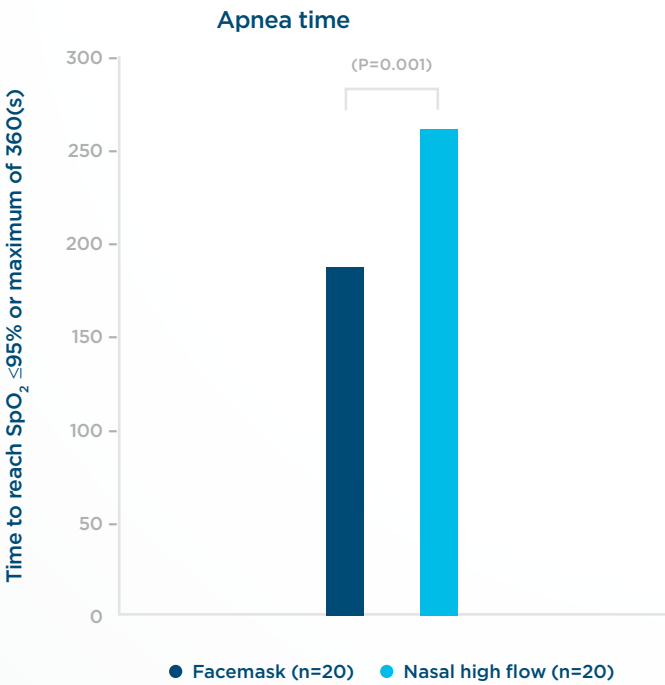
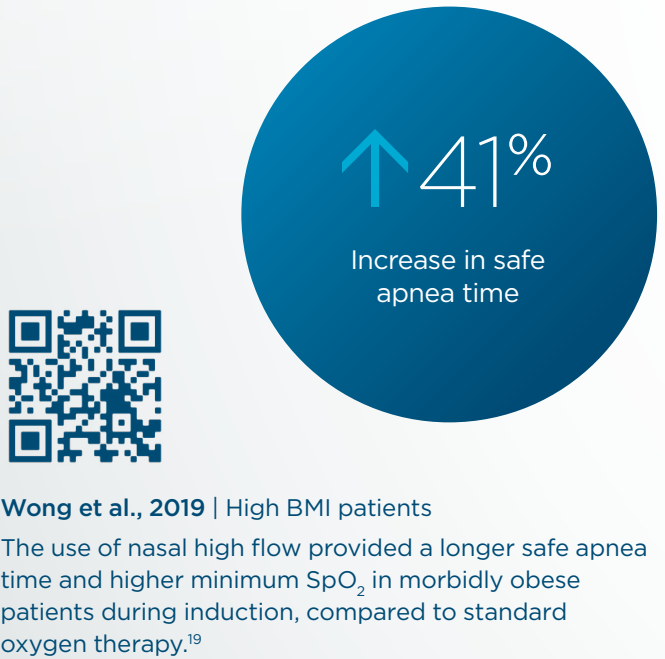
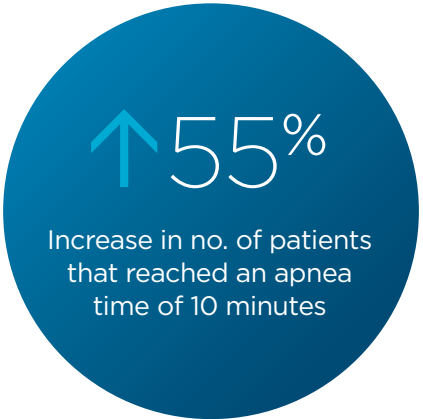
*Mantel-Haenszel
HFNO n=2024, Control n=2037, Total events: HFNO = 115, Control = 371. Heterogeneity: Tau² = 0.48; Chi² = 58.05, df = 16 (P < 0.00001); I² = 72%. Test for overall effect: Z = 4.62 (P < 0.00001). Test for subgroup differences: Chi² = 0.70, df = 3 (P = 0.87), I² = 0%

In general anesthesia, THRIVE has been shown to improve patient safety¹⁴ by providing effective preoxygenation¹⁴⁻¹⁶ and extending safe apnea time^{14, 17-19}



Hua et al., 2020 | Elderly patients

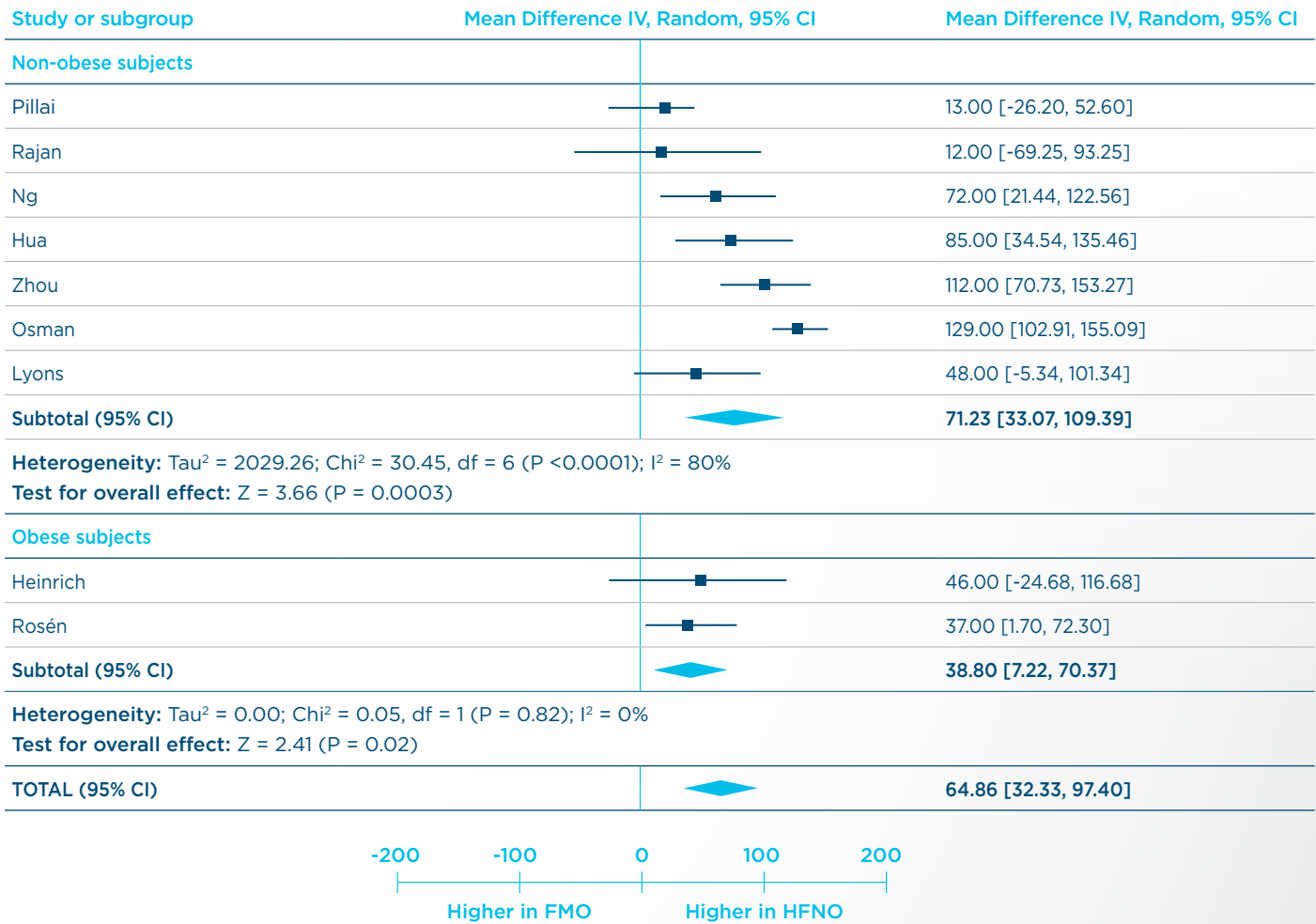
The use of nasal high flow significantly increased the proportion of patients to reach an apnea time of 10 minutes in elderly patients after rapid sequence induction, compared to standard oxygen therapy.¹⁸



Kuo et al., 2022.

Meta-analysis by Kuo et al. showed that high flow nasal oxygenation better enhanced PaO₂ and extended safe apnea time and is not inferior to facemask oxygenation in preventing desaturation during tracheal intubation.¹⁴

Forest plot of arterial pressure of oxygen (mmHg) after pre-oxygenation between high flow nasal oxygen (HFNO) and face mask oxygen (FMO) groups
(Adapted from Kuo, 2022)

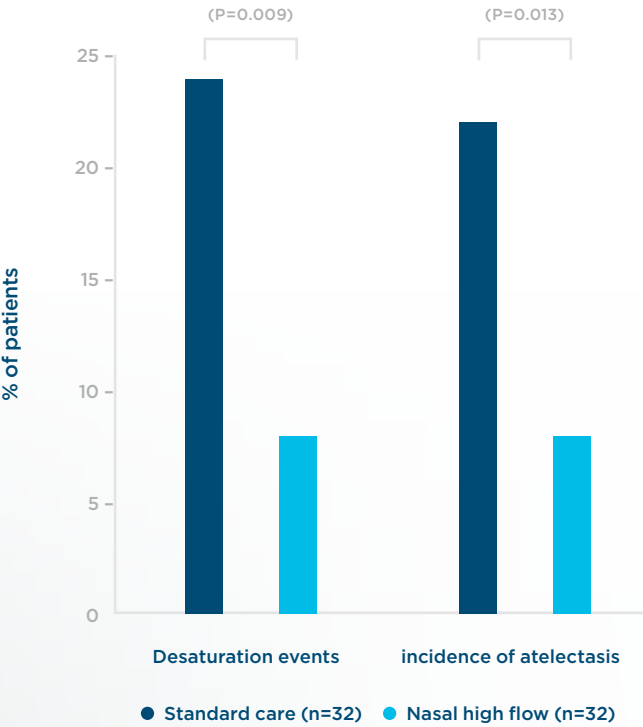


HFNO n=192, FMO n=187
Heterogeneity: Tau² = 1838.40; Chi² = 37.46, df = 8 (P < 0.00001); I² = 79%
Test for overall effect: Z = 3.91 (P < 0.0001)
Test for subgroup differences: Chi² = 1.65, df = 1 (P = 0.20); I² = 39.3%

In postanesthesia care, nasal high flow reduces the risk of desaturation¹⁻⁴
and post operative pulmonary complications (e.g., atelectasis)²⁵⁻²⁷

Ferrando et al., 2019 | Morbidly obese patients

The use of nasal high flow decreased the prevalence of postoperative hypoxemia in morbidly obese patients undergoing bariatric surgery, compared to standard oxygen therapy.²⁵



↓ 67%

Decrease in
desaturation events

↓ 64%

Decrease in incidence
of atelectasis



* When used with a filtered nasal interface



Heaterbase:

950
Heaterbase
1 ea.



Mounting:

AA501
DIN Rail Mounting
Humidifier Pole
1 ea.

AA502
Dovetail Rail Mounting
Humidifier Pole
1 ea.

AA503
Vertical Clamp Mounting
Humidifier Pole
1 ea.



Oxygen Kit:

AA452
Optiflow Oxygen Kit
10/box



Flow diverter:

AA520
Flow Diverter
1 ea.



Interfaces:

AA031 S / M / L
Optiflow Filtered Nasal
Interface with CO₂ Sampling
- Small / Medium / Large
10/box

AA041 S / M / L
Optiflow Filtered Nasal
Interface with Anesthesia
Mask Compatibility
- Small/ Medium / Large
10/box



Transport:

AA020
Low Flow Oxygen Tubing
10/box

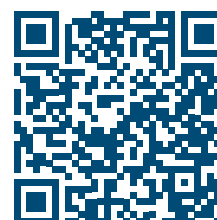
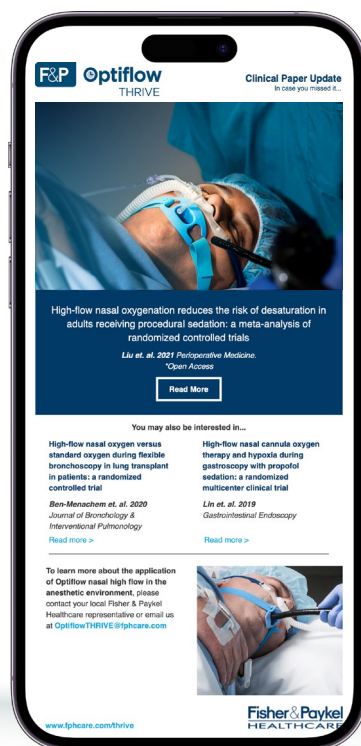


Nasal High Flow System:

Airvo™ 2
1 ea.

AA410
Airvo 2 Tube and Chamber
Kit
10/box

Scan the QR code to subscribe to our Quarterly Clinical Newsletter for recent research papers on nasal high flow in anesthesia.



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