Creating Support for **Life**

POINT®

Perioperative Insufflatory Nasal Therapy

Armstrong Medical

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Creating Support for **Life**

Contents

POINT®

Introduction

High flow oxygen therapy (HFOT) has seen an increased application in the support of critical care patients with acute respiratory failure, acute cardiac failure and in preventing post operative atelectasis.

Recent evidence has demonstrated an emerging role for this technique in the perioperative environment.

POINT® in Anaesthesia

Pre operative
- Hands free preoxygenation
- Lung recruitment

Intubation
- Reduced time pressures during intubation
- Less stress for teaching
- Increased first pass success
- Reduced incidence of desaturation

Intra operative

Laryngeal Surgery
- Improved surgical visualization for ENT surgery
- Reduced procedure times
- Improved biopsy samples

Procedural Sedation
- Reduced risk of desaturation
  - Bronchoscopy
  - Dental
  - Regional anaesthesia

Post operative

Continued support after extubation for high risk patients such as:
- OSA
- High BMI
- Chronic airway disease
- Long term surgeries at risk of anaesthesia induced atelectasis

Heated and humidified gases improve patient comfort and outcomes by:
- Relieving post anaesthesia dry mouth
- Aiding normothermia
- Improving secretion clearance

POINT® Application

Critical Care

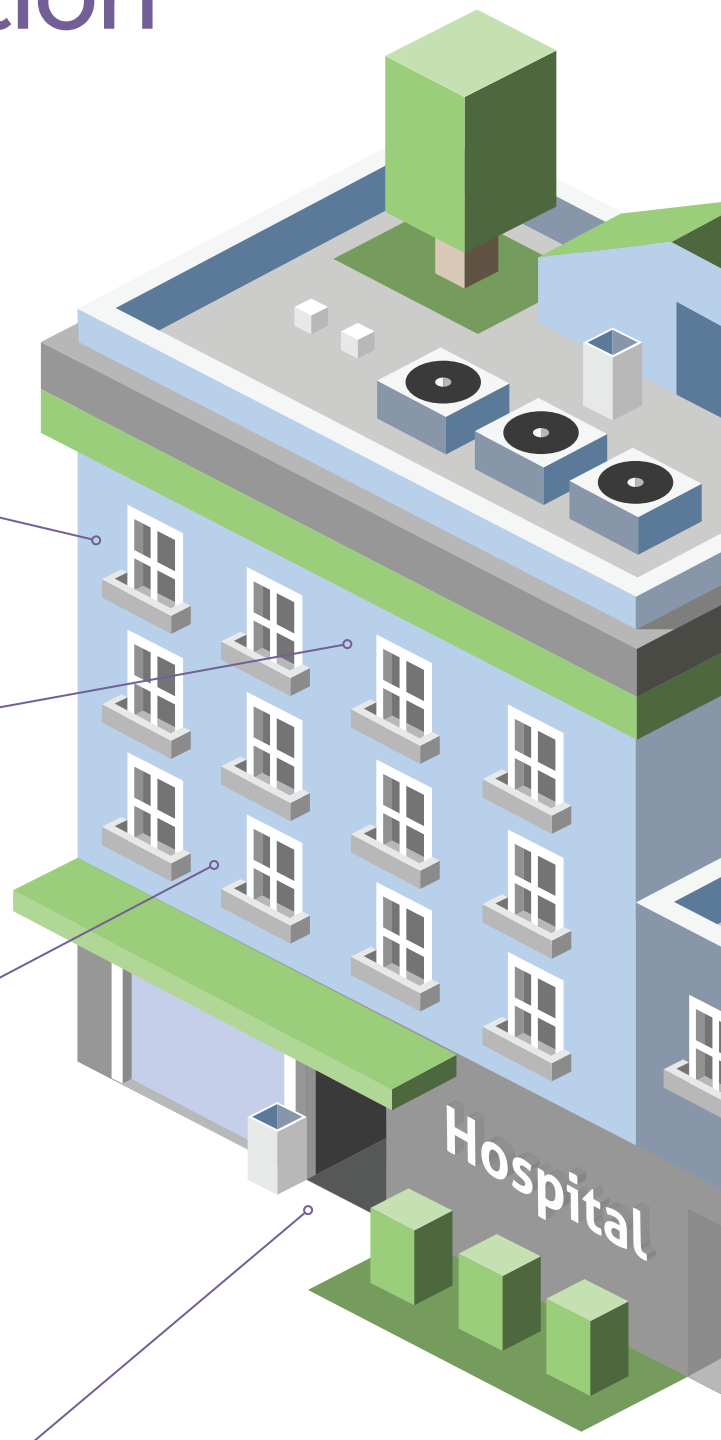
POINT® provides continued respiratory support to post surgical patients.

Cardiac Care

POINT® HFOT & CPAP provides support for the treatment of pulmonary oedema.

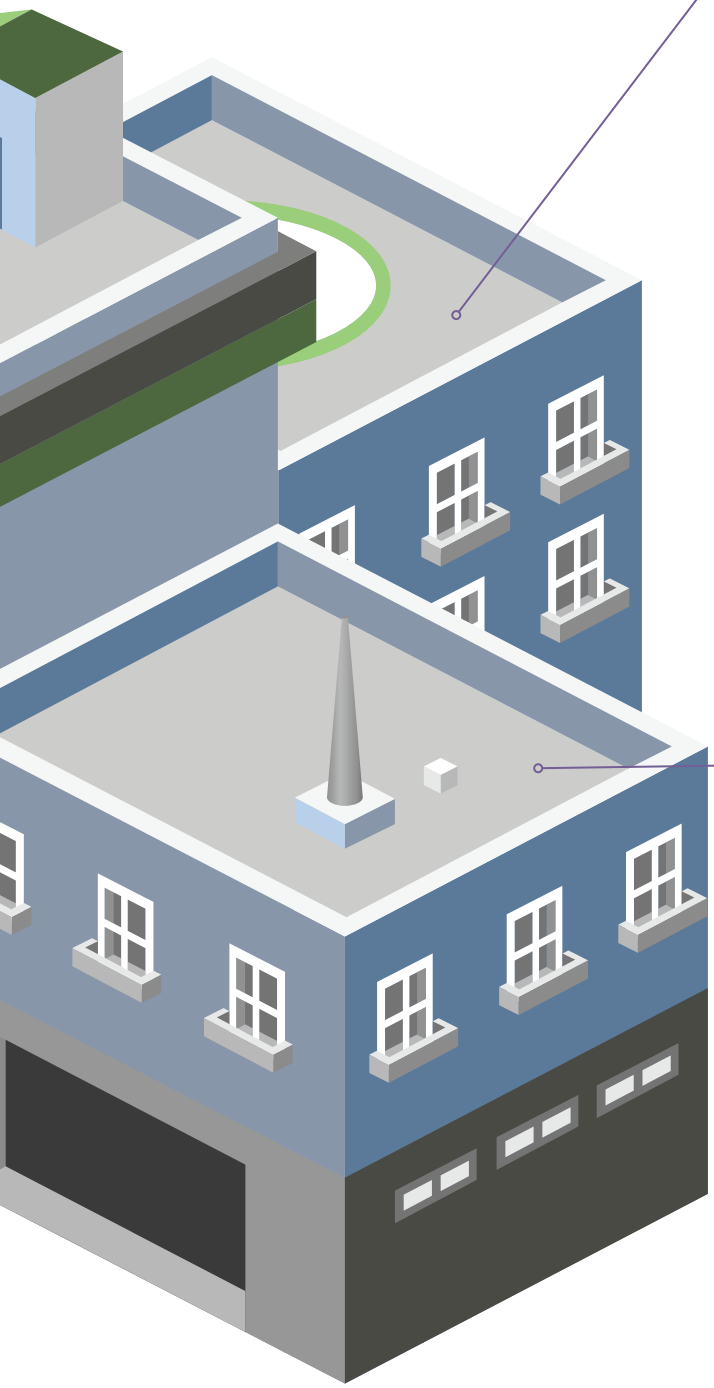
Endoscopy & Dental

POINT® reduces incidence of desaturation during sedation.



Emergency Department

POINT® provides support for patients with Hypoxia, Hypercapnia or those that require intubation in the Emergency department.



Operating Department

The physiological benefits of POINT® reduce risks during the induction of anesthesia, provides improved access for ENT surgery and enhanced support during post operative recovery.

Maternity

POINT® provides support for airway difficulties associated with pregnancy.

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POINT® Benefits

POINT® provides three options for high flow respiratory support

High Flow Oxygen Therapy (HFOT)

Patient Comfort

Gas is conditioned to body temperature delivering humidity to aid mucocilary function and patient comfort at high flow rates.

Improved Oxygenation

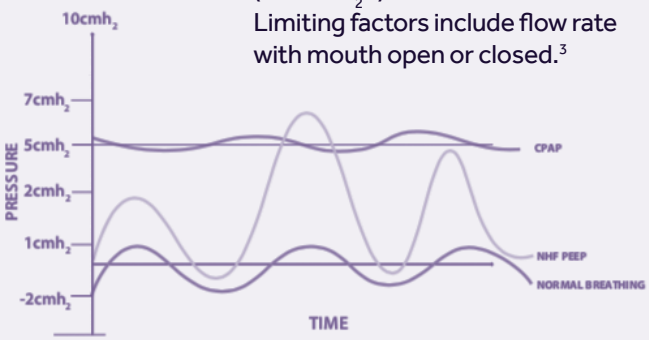
Flow rates closer to the patient's peak inspiratory requirement reduce entrainment of room air and dilution of FiO_2.[1]

Improved Alveolar Ventilation

The patient's anatomical dead space can be reduced by 1/3 helping improve alveolar ventilation especially in sedated patients.[2]

PEEP

Studies have demonstrated variable PEEP is achieved (2-7cmH_20) with HFOT. Limiting factors include flow rate with mouth open or closed.[3]



Humidified Positive Expiratory Pressure (PEP)

Alveolar recruitment

Ultra-PEP is used to mobilise secretions, assist with airway clearance and prevent or reverse post operative atelectasis.

Continuous flow CPAP

Fast transition to CPAP

For some patients variable PEEP provided by HFOT may not provide adequate support and high continuous flow facemask CPAP is required. Our range of blenders provide flow rates for both facemask and nasal HFOT for simple quick and easy CPAP conversion.

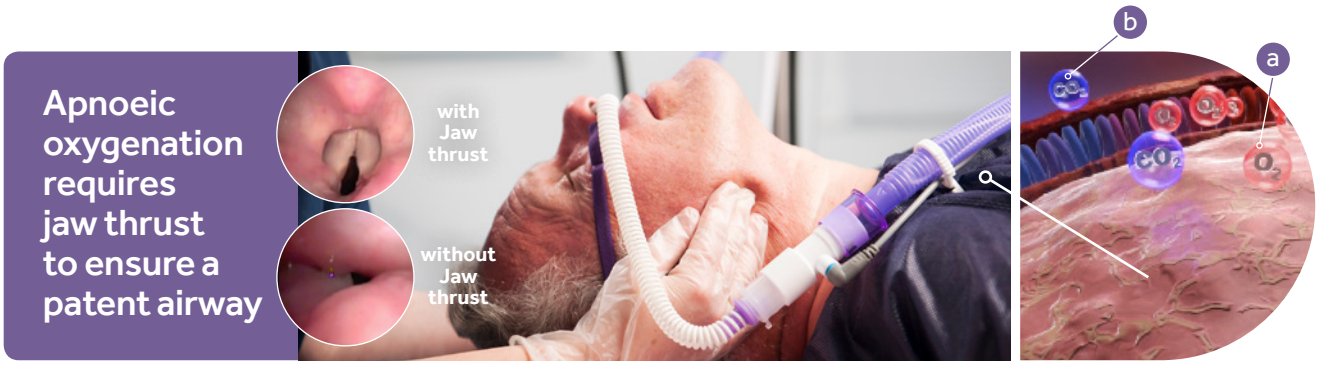
Apnoeic Oxygenation:

The THRIVE technique

In 2015 Patel et al described THRIVE (Trans Nasal Humidifed Rapid insufflatory Ventilatory Exchange) the technique of HFOT to support apnoic oxygenation[4]

Apnoeic oxygenation

First described in 1959 as Aventilatory Mass Flow (AVMF) this physiological phenomenon describes apneic oxygenation. During apnoea, diffusion of oxygen[(a)] into the alveolar capillaries continues while carbon dioxide[(b)] diffusion into the alveoli decreases by 200ml/min creating a pressure gradient from the nasopharynx to the alveoli.[5]



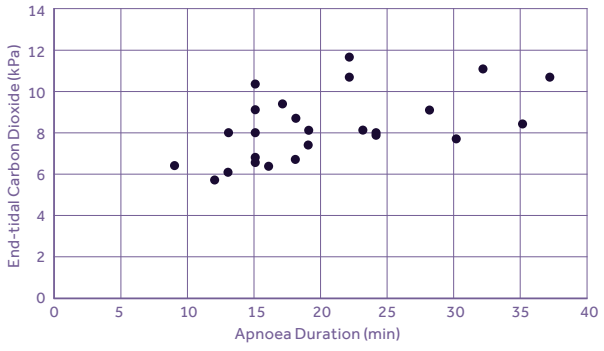
Laser surgery or diathermy

During laser airway surgery, FiO_2 can be reduced to 0.21. Booth A.W.G Et al reduced FiO_2 to 0.3 for a median period of 20 minutes in 12 patients when using laser.[6]

Apnoeic oxygenation with high flow nasal oxygen for laryngeal surgery: A Case Series

Lyons & Callaghan used POINT® for Apnoeic oxygenation during laryngeal surgery of 28 patients with a median apnea time of 19 minutes.

"We believe that apnoeic oxygenation with HFNO is an acceptable alternative technique for the performance of short duration laryngeal and tracheal surgery without he presence of a tracheal tube. This may improve surgical access and reduce overall procedure time."[7]



POINT® Systems

What POINT® system is best for you?

POINT® O_2
AMMMCS13

Features
- 0-70L/min
- FiO_2 - 1

POINT® Blender
70L/min - AMMMCS10
120L/min - AMMMCS4

Features
- 0-70L/min or 0-120L/min
- FiO_2 Range - 0.21-1
- O_2 Analyser
- Optional Pressure Measurement

FD140
AMFD140

Features
- 0-140L/min
- FiO_2 Range - 0.21-1
- O_2 Analyser
- Pressure Management
- Pressure Alarm
- Respiratory Rate
- Apnea Alarm
- Applicable for transfer
- Adaptable for HE CPAP

MaxVenturi®
MTOV211P03-003

Features
- 0-60L/min
- FiO_2 Range - 0.32-1
- O_2 Analyser

	POINT® O_2	POINT® Blender	FD140	MaxVenturi®
Preoxygenation	✓	✓	✓	✓
Sedation		✓		✓
Intubation	✓	✓	✓	✓
Laryngeal Surgery		✓	✓	
Post op HFOT		✓	✓	
Post op CPAP		✓	✓	

AquaVENT® Heater Humidifier

Product Overview

The AquaVENT® Heater Humidifier can be used with all POINT® High Flow systems.

The system includes:

1. Invasive or non-invasive mode selection
2. Automatic temperature selection
3. Low and high temperature alarm
4. Over-temperature protection
5. Real-time temperature tracking display allows heated plate, chamber and airway temperature to be viewed
6. Digital display
7. Servo-controlled

Accessories

Drip stand

ALAMSTA100
ASTOSTAND has been specially designed for the operating and intensive care areas.

Gas Spliter

AMFD6111
Splitter O_2

AMFD6112
Splitter Air

Oxygen Sensor

MTSR125P03-002
MAX-250E Oxygen Sensor

Manometer

AMMBMA4
Manometer (-30 to +30cm H_2O) including Clamp & Bracket.

Basket

AMMBR105P17-001
Basket for Dripstand.

O_2 Analyser

AMMBR217P62
Max O_2+AE External Oxygen Analyser

AMMBR217P72
Max O_2+AE External Oxygen Analyser

MTOM-25-ME
Max O_2 ME External Oxygen Analyser (with alarm)

POINT® Features

1

Variable Oxygen Concentration 21-100% for recovery, laser/diathermy and patients with COPD.

2

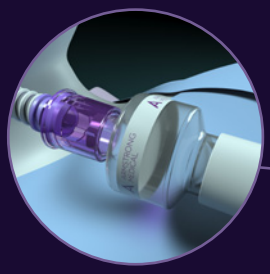
Autofill Humidification Chamber maintains water level when using a bag of sterile water.

3

AquaVENT® Humidifer displays airway temperature.

4

Extra long 1.8m heated breathing system designed for perioperative application protected by BioCote® antimicrobial technology.



5

Tube clip ensures optimal positioning.

6

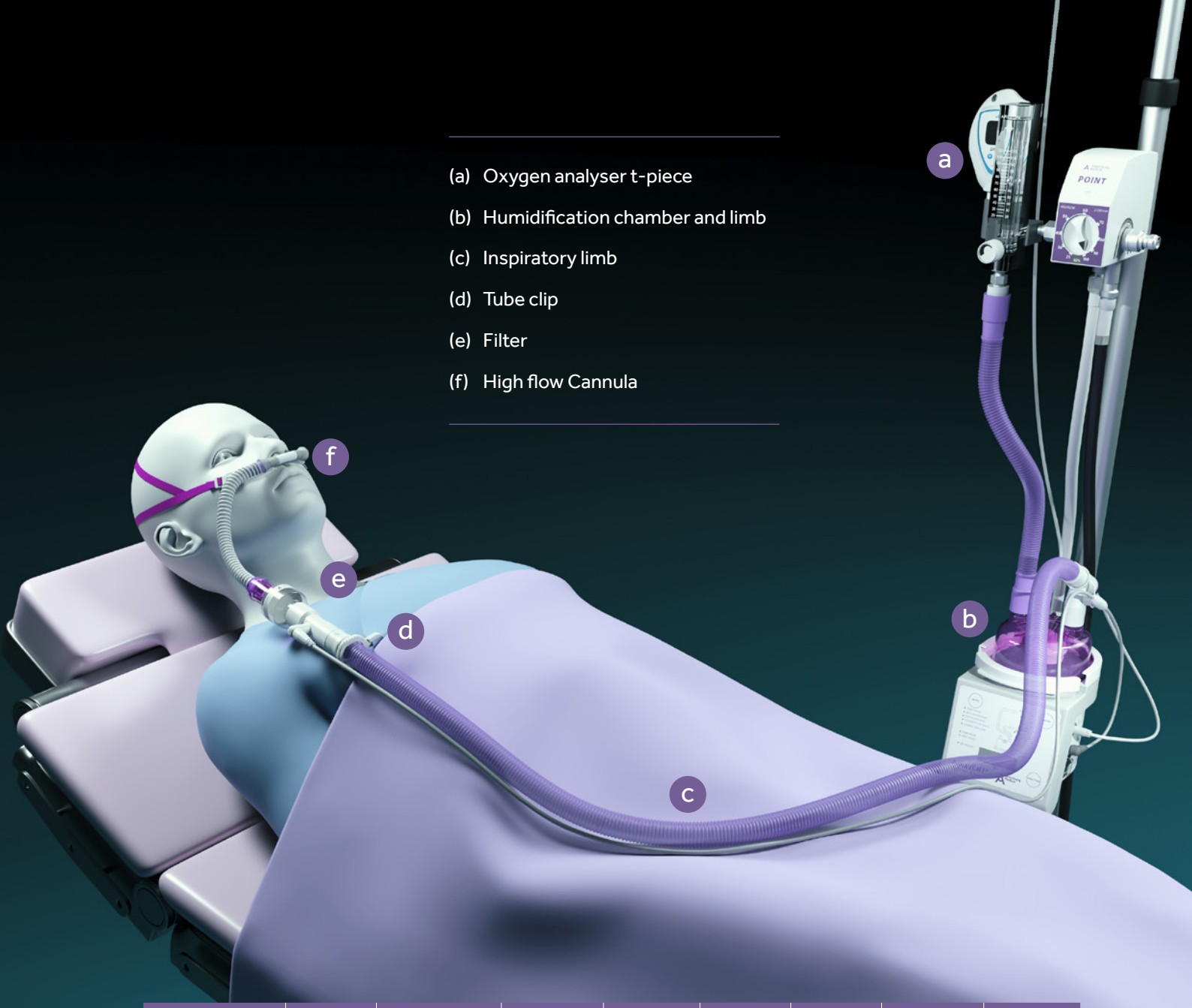
For reuse of circuit, use our low-profile filter with cannula.

7

Options available with Bi-lateral applications or tracheostomy connection.

8

Enhanced headstrap stability and comfort.



(a) Oxygen analyser t-piece

(b) Humidification chamber and limb

(c) Inspiratory limb

(d) Tube clip

(e) Filter

(f) High flow Cannula

Code	Oxygen analyser t-piece (a)	Humidification chamber and limb (b)	Inspiratory limb Length (c)	Tubing diameter	Tube clip (d)	Filter (e)	AquaNASE Cannula (f)	Box Qty
AMHO1509/030	No	Yes	1.8m	15mm	Yes	Venturi	Yes	20
AMHO1509/034		Yes	1.8m	15mm	Yes	No	Yes	20
AMHO1509/035	Yes	Yes	1.6m	15mm	Yes	No	Yes	20
AMHO1509/042	No	Yes	1.8m	15mm	Yes	Patient	Yes	20
AMNS2005/002	High flow cannula with bi-lateral positioning and filter							10
AMNS1005/002	High flow cannula and filter							10
AMTC1100	Tracheotomy high flow cannula							10

Reference

1. GOTERA C, LOBATO D, PINTO T, WINCK JC, (2013) Clinical evidence on high flow oxygen therapy and active humidication in adults, Pneumologia 19(5), 217-227
2. MOLLER et al, (2015) Nasal high flow clears anatomical dead space in upper airway models, Journal of Applied Physiology 118, 1525–1532
3. PARKE et al, (2009) Nasal high flow therapy delivers low level positive airway pressure, British journal of Anaesthesia 103 (6), 886-90
4. PATEL A, NOUAEI SAR, (2015) Transnasal Humidified Rapid Insuflation Ventilatory exchange (THRIVE): a physiological method of increasing apnoea time in patients with difficult airways, Anesthesia 70, 323-329
5. BARTLETT R G et al, (1959) Demonstration of aventilatory mass flow during ventilation and apnea in man, Journal of Applied Physiology 4 (1), 97-101
6. Booth A.W.G et al, (2017) SponTaneous Respiration using IntraVenous anaesthesia and Hi-Flow nasal oxygen (STRIVE Hi), British Journal of Anaesthesia, 118 (3), 444-51
7. Lyons C, Callaghan M (2017) Apnoeic oxygenation with high-flow nasal oxygen for laryngeal surgery: a case series

Distributed by:

Armstrong manufacture a complete range of disposable respiratory products for anaesthesia and critical care applications. For supply of these products or any product within the Armstrong range, please contact your local representative.

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