

# Suction Above the Cuff ET Tube

## SACETT™ - a critical part of your VAP protocol

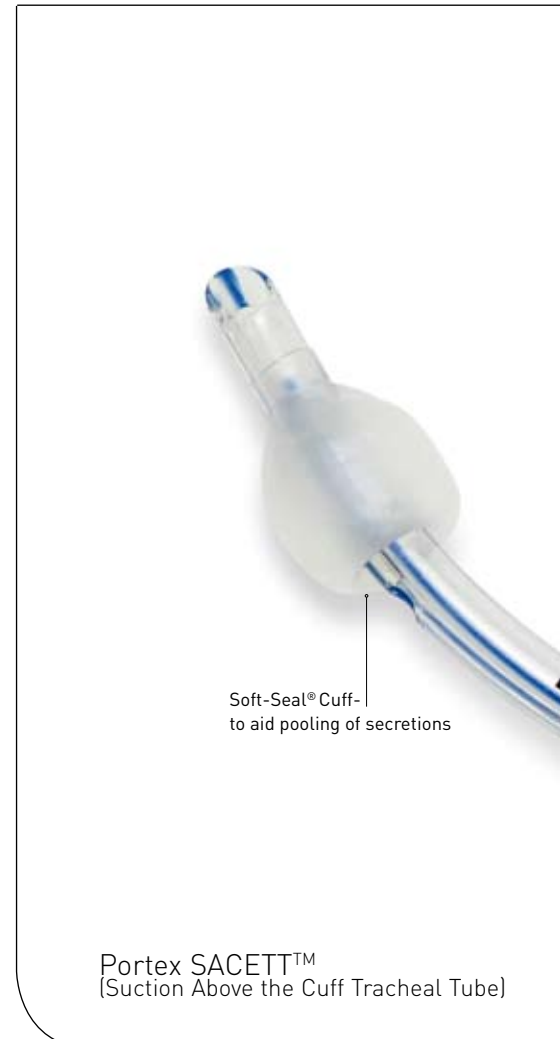
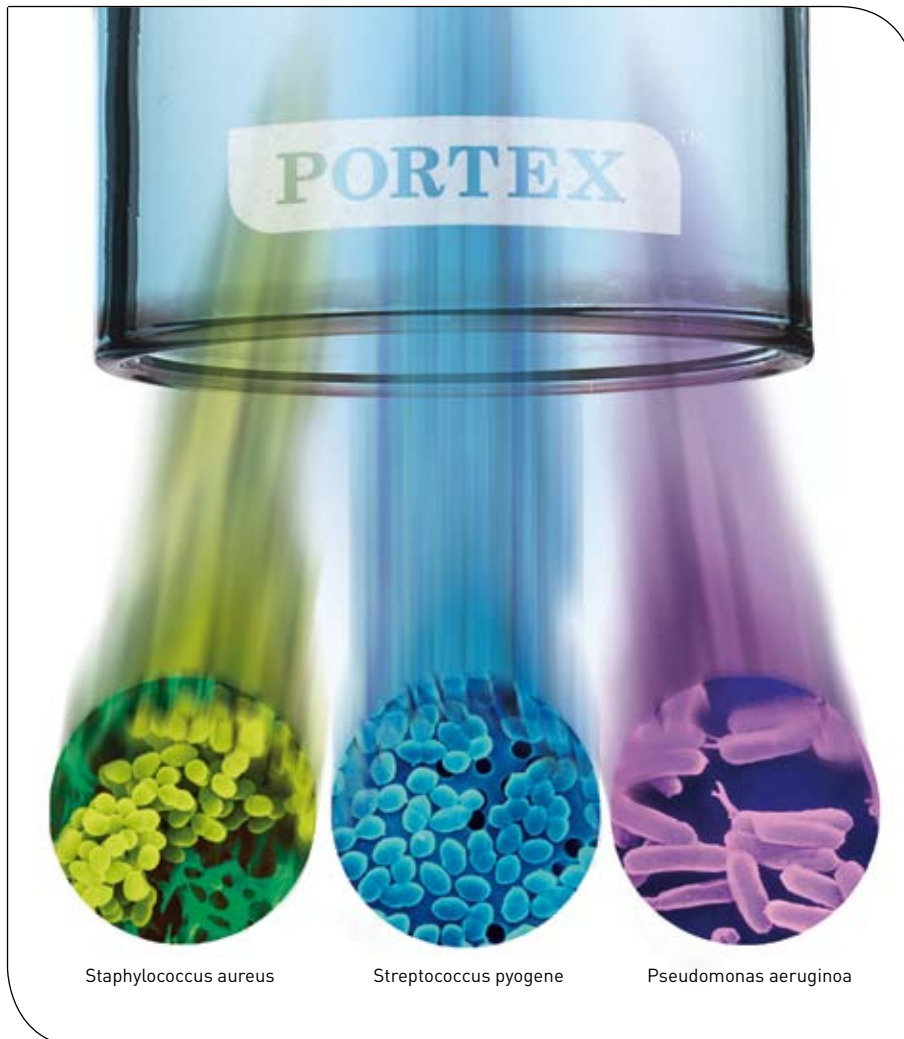


**AIRWAY MANAGEMENT**

**PORTEX**

™

## Understanding the problem



### Understanding the problem

The need for mechanical ventilation is frequently the primary reason for admission into an intensive care unit (ICU). Though ventilation in these cases is essential for the immediate preservation of life, it does carry with it an element of risk. Critically ill patients in ICU are at high risk from infections associated with increased morbidity, mortality, and health care costs<sup>1-3</sup>. The overall infection rate in critically ill patients approaches 40% and may be as high as 50% or 60% in patients who remain in the ICU for more than 5 days<sup>4,5</sup>. The incidence of pneumonia acquired in the ICU ranges from 10% to 65%<sup>6-11</sup>. Among patients at high risk from ventilator-associated pneumonia (VAP) are those who have chronic

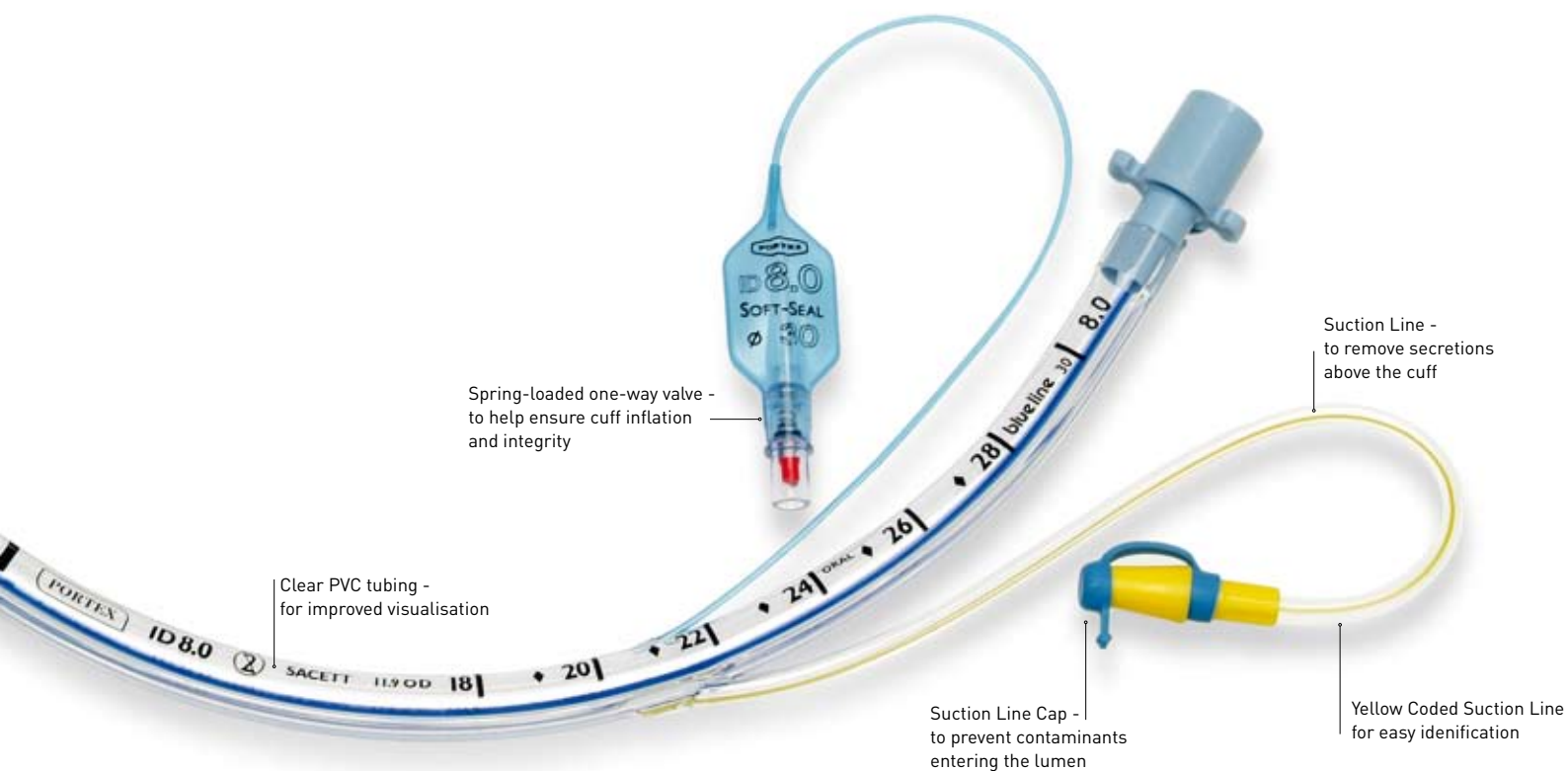
obstructive pulmonary disease, burns, neurosurgical conditions, acute respiratory distress syndrome, and witnessed aspiration; those who are re-intubated; and those who receive paralytic agents or enteral nutrition<sup>12,13</sup>.

The attributable morbidity and mortality of VAP are clinically significant. In a prospective, matched cohort study, patients with VAP remained in the ICU 4.3 days (95% CI, 1.5 to 7.0 days) longer than patients who did not have VAP and had a trend toward an increased risk for death (absolute risk increase, 5.8% [CI, -2.4% to 14.0%])<sup>14</sup>. Six other studies using a matching strategy found a prolonged length of ICU stay associated with VAP (range, 5 to 13 days) and attributable mortality ranging from an absolute risk increase of 0% to 50%<sup>15-20</sup>.

Safdar et al (2005)<sup>21</sup>, evaluating the clinical and economic consequences of ventilator-associated pneumonia concluded:

- a) between 10% and 20% of patients receiving >48 hrs of mechanical ventilation will develop VAP.
- b) critically ill patients who develop VAP appear to be twice as likely to die compared with similar patients without VAP (pooled odds ratio, 2.03; 95% confidence interval, 1.16-3.56).
- c) patients with VAP have significantly longer intensive care unit lengths of stay (mean = 6.10 days; 95% confidence interval, 5.32-6.87 days).
- d) patients who develop VAP incur up to USD \$10,019 in additional hospital costs.

Therefore, strategies to decrease the incidence of VAP could decrease morbidity, mortality, and health care costs and improve patient safety<sup>22</sup>.



## Your Expertise

The prophylaxis of VAP has been shown to be best achieved via a combination of strategies combined into a workable local protocol. Common protocols include the following elements:

- Identification of patients at risk
- Early and accurate diagnosis
- Sedation interruption/earliest extubation
- Semi-recumbent positioning
- Continuous aspiration of subglottic secretions (CASS)
- Closed suctioning system
- Routine Oral Care / Hygiene
- Minimising nasogastric intubation/ extubation
- Reduction in ventilator circuit changes
- Stress ulcer prophylaxis
- Continuous lateral rotation

Working with your local microbiology and infection control experts these strategies can be combined to reduce the incidence of VAP within your institution.

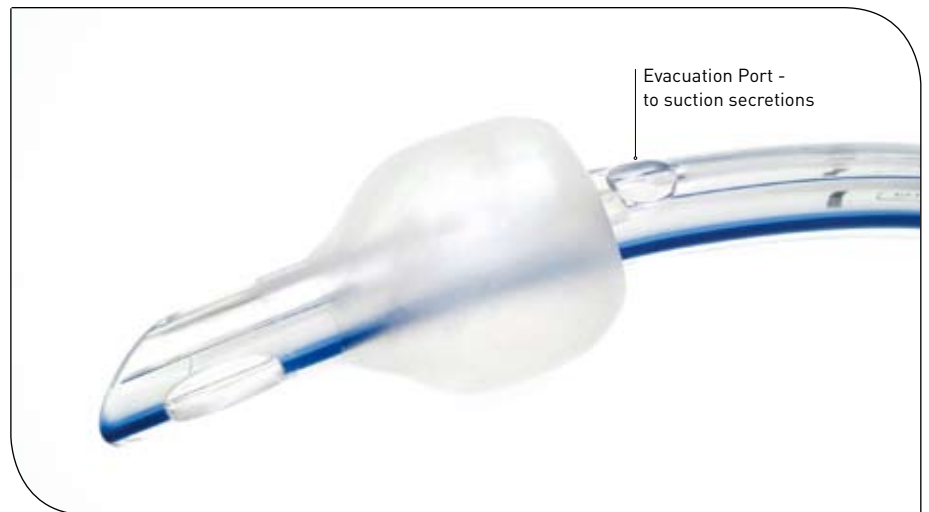
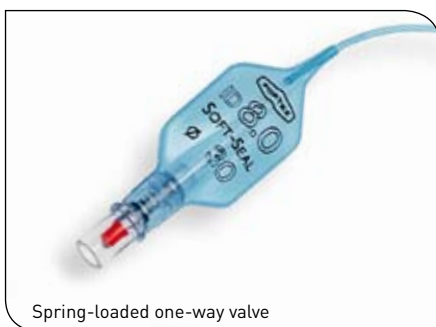
## Our Expertise

Continuous subglottic aspiration removes oropharyngeal and/or gastric secretions from above the cuff of an endotracheal or tracheostomy tube which may have been contaminated /colonised by pathogenic organisms. Micro-aspiration of these secretions is believed to be a primary factor in the development of VAP. Although aspiration can be performed via scheduled intervention (with the risk of vocal cord damage or the introduction of infection), Smiths Medical has used the experience gained from Blue Line Ultra® Suctionaid® to develop SACETT™.

## SACETT™

The Portex Suction Above the Cuff Tracheal Tube (SACETT™) is a new addition to the Blue Line range of tracheal tubes, specifically designed to reduce VAP. SACETT™ combines all the quality features of the blue line range with the ability to remove secretions from above the cuff while leaving the tube in-situ. This is accomplished via the incorporation of an additional posterior lumen with an evacuation opening above the cuff to allow continuous aspiration of sub-glottic secretions (CASS).

The unique feature of SACETT™ is the incorporation of the high-volume, low pressure Soft-Seal® Profile® reverse cuff which as well as providing increased patient comfort and safety though its reliable and conformal seal is also shaped to encourage secretions to pool around the evacuation opening.



## Key features of SACETT™

- Blue Line® cuffed tracheal tube features the high-volume, low-pressure Soft-Seal® Profile® reverse cuff providing increased patient comfort and safety and aids pooling of secretions for aspiration. The quality of the seal offers additional protection against potential secretion leakage.
- Spring-loaded, one-way valve helps ensure cuff inflation and integrity – and large ergonomic pilot balloon makes it easier to distinguish between the sound of suction and that of a cuff leak

- Posterior aspiration opening and additional lumen leading to a proximal line for connection to suction sources. The integral lumen avoids potential trauma and risk of infection introduction associated with manual catheter suctioning
- Clear PVC to allow visualisation of misting and confirm correct placement
- Yellow coded suction line and connector for easy identification and prevention of accidental cutting
- Suction line cap to prevent contaminants entering the lumen when suction is suspended (e.g. during patient transport)

Used as part of a well implemented reduction protocol, CASS has been shown to reduce the incidence of VAP<sup>24-27</sup>. The Portex Suction above the cuff ET tube has been optimised for the successful application of CASS for the reduction of VAP incidence.

# Our Portfolio of VAP reducing solutions



## Blue Line Ultra® Suctionaid®

### Reducing the potential risk of infection, reducing the risk of aspiration

Blue Line Ultra® Suctionaid® tube features an integral suction lumen to aid removal of secretions from above the cuff. Thermosensitive PVC – provides sufficient rigidity for initial insertion, and then softens at body temperature to accommodate individual patient anatomy

- 105° angle for comfort in-situ
- Tube is suitably radiopaque to enable confirmation of tube position

- Soft Seal cuff – velvet soft; low pressure, high volume cuff, with larger cuff resting diameter
- Clear markings on pilot balloon provide relevant information
- Flange is soft for maximum patient comfort, and clear to ensure aesthetic acceptability
- Obturator features special clip design to minimise tube tip movement during insertion
- Inner cannula designed to be robust and easy to use. Ring pull design aids smooth insertion and removal from tube, minimising patient trauma
- Size of inner cannula indicated to avoid errors in use



## SuctionPro 72™

### Reduce Infection, Reduce patient stay, Reduce costs

The Portex SuctionPro 72™ Closed Ventilation Suction System is a single patient use suctioning device for the removal of secretions from the tracheobronchial tree of ventilator dependent adult patient – intended for 72 hours use.

- 3-day recommended duration of use
- Clear pathway evacuation port

- Lockable thumb valve end cap
- Patient label with day of the week stickers
- Clear T piece for visualisation of the pathway
- Soft but strong catheter sleeve
- Trac-Wedge device to aid in disconnection of the catheter from the patient's endotracheal or tracheostomy tube
- Swivel connector available to reduce torque to patient
- Sterile, single patient use



## PressureEasy®

### Cuff Pressure Monitor

The PressureEasy® Cuff Pressure Controller is designed to continuously monitor tracheal cuff pressure. Its indicator window signals cuff pressure is maintained between 20-30cm/H2O. In addition, the airway pressure auto-feedback feature boosts cuff pressure to ensure proper sealing when high pressures are used during ventilation. Using the PressureEasy® Cuff Pressure Controller helps to ensure secretions remain above the cuff, when using SACETT™.

- Monitors endotracheal cuff pressure level between 20-30 H2O
- Guards against aspiration and tracheal damage
- Pressure feedback line designed to eliminate cuff leaks at peak inspiratory pressure

## References:

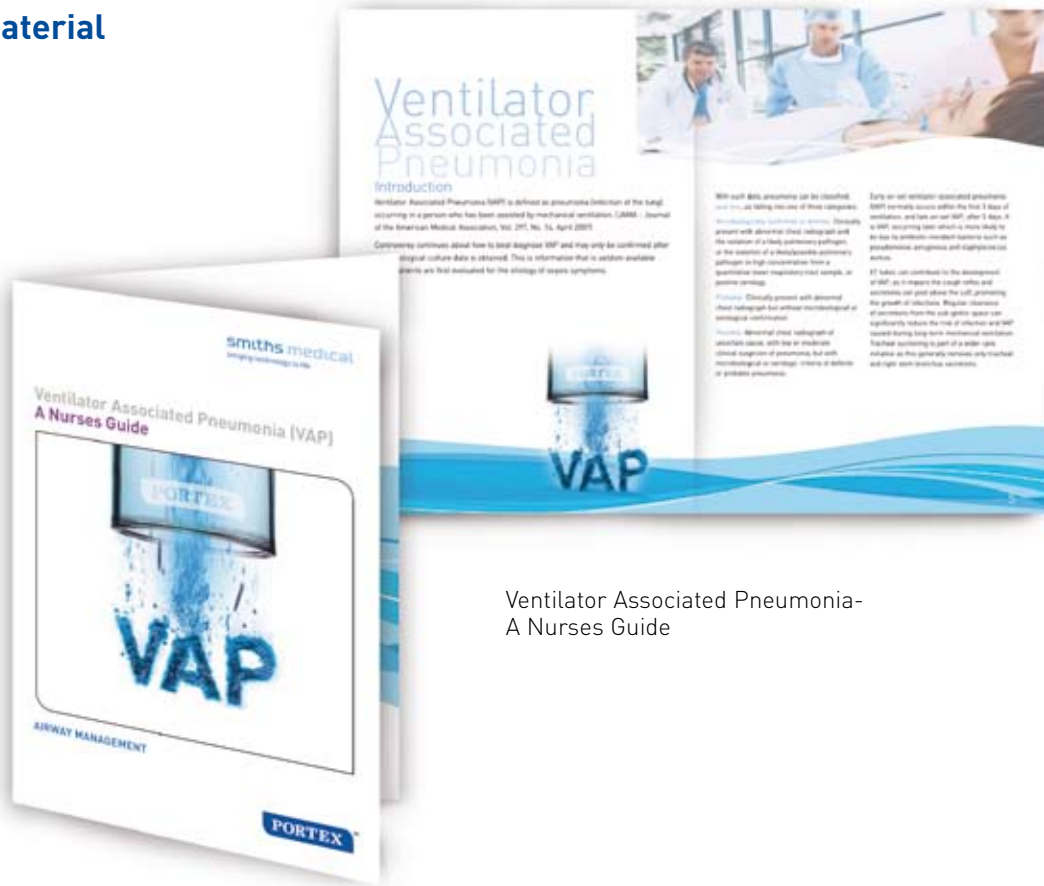
1. Girou E, Stephan F, Novara A, Safar M, Fagon JY. Risk factors and outcome of nosocomial infections: results of a matched case-control study of ICU patients. *Am J Respir Crit Care Med.* 1998;157:1151-8.
2. Bueno-Cavanillas A, Delgado-Rodriguez M, Lopez-Luque A, Schaffino-Cano S, Galvez-Vargas R. Influence of nosocomial infection on mortality rate in an intensive care unit. *Crit Care Med.* 1994;22:55-60.
3. de Clercq H, De Decker G, Alexander JP, Huyghens L. Cost evaluation of infections in intensive care. *Acta Anaesthesiol Belg.* 1983;34:179-89.
4. Vincent JL, Bihari DJ, Suter PM, Bruining HA, White J, Nicolas-Chanoin MH, et al. The prevalence of nosocomial infection in intensive care units in Europe. Results of the European Prevalence of Infection in Intensive Care (EPIC) Study. EPIC International Advisory Committee. *JAMA.* 1995;274:639-44.
5. Potgieter PD, Linton DM, Oliver S, Forster AA. Nosocomial infections in a respiratory intensive care unit. *Crit Care Med.* 1987;15:495-8.
6. Kerver AJ, Rommes JH, Mevissen-Verhage EA, Hulstaert PF, Vos A, Verhoef J, et al. Colonization and infection in surgical intensive care patients—a prospective study. *Intensive Care Med.* 1987;13:347-51.
7. Rello J, Quintana E, Ausina V, Castella J, Luquin M, Net A, et al. Incidence, etiology, and outcome of nosocomial pneumonia in mechanically ventilated patients. *Chest.* 1991;100:439-44. [PMID: 1864118]
8. Celis R, Torres A, Gatell JM, Almela M, Rodriguez-Roisin R, Agusti-Vidal A. Nosocomial pneumonia. A multivariate analysis of risk and prognosis. *Chest.* 1988;93:318-24.
9. Craven DE, Kunches LM, Lichtenberg DA, Kollisch NR, Barry MA, Heeren TC, et al. Nosocomial infection and fatality in medical and surgical intensive care unit patients. *Arch Intern Med.* 1988;148:1161-8.
10. Jimenez P, Torres A, Rodriguez-Roisin R, de la Bellacasa JP, Aznar R, Gatell JM, et al. Incidence and etiology of pneumonia acquired during mechanical ventilation. *Crit Care Med.* 1989;17:882-5.
11. Fagon JY, Chastre J, Vuagnat A, Trouillet JL, Novara A, Gibert C. Nosocomial pneumonia and mortality among patients in intensive care units. *JAMA.* 1996;275:866-9. [PMID: 8596225]
12. Cook DJ, Kollef MH. Risk factors for ICU-acquired pneumonia. *JAMA.* 1998;279:1605-6.
13. Cook DJ, Walter SD, Cook RJ, Griffith L, Guyatt GH, Leasa D, et al. Incidence of and risk factors for ventilator-associated pneumonia in critically ill patients. *Ann Intern Med.* 1998;129:433-40.
14. Heyland DK, Cook DJ, Griffith L, Keenan SP, Brun-Buisson C. The attributable morbidity and mortality of ventilator-associated pneumonia in the critically ill patient. The Canadian Critical Trials Group. *Am J Respir Crit Care Med.* 1999;159:1249-56.
15. Fagon JY, Chastre J, Hance AJ, Montravers P, Novara A, Gibert C. Nosocomial pneumonia in ventilated patients: a cohort study evaluating attributable mortality and hospital stay. *Am J Med.* 1993;94:281-8.
16. Baker AM, Meredith JW, Haponik EF. Pneumonia in intubated trauma patients. Microbiology and outcomes. *Am J Respir Crit Care Med.* 1996;153:343-9.
17. Cunnion KM, Weber DJ, Broadhead WE, Hanson LC, Pieper CF, Rutala WA. Risk factors for nosocomial pneumonia: comparing adult critical-care populations. *Am J Respir Crit Care Med.* 1996;153:158-62.
18. Craig CP, Connelly S. Effect of intensive care unit nosocomial pneumonia on duration of stay and mortality. *Am J Infect Control.* 1984;12:233-8.
19. Kappstein I, Schulgen G, Beyer U, Geiger K, Schumacher M, Daschner FD. Prolongation of hospital stay and extra costs due to ventilator-associated pneumonia in an intensive care unit. *Eur J Clin Microbiol Infect Dis.* 1992;11:504-8.
20. Papazian L, Bregnon F, Thirion X, Gregoire R, Saux P, Denis JP, et al. Effect of ventilator-associated pneumonia on mortality and morbidity. *Am J Respir Crit Care Med.* 1996;154:91-7.
21. Safdar N, Dezfulian C, Collard HR, Saint S. Clinical and economic consequences of ventilator-associated pneumonia: a systematic review. *Crit Care Med.* 2005 Oct;33(10):2184-93.
22. Dodek P, Keenan S, Cook D, Heyland D, Jacka M, Hand L, Muscedere J, Foster D, Mehta N, Hall R, Brun-Buisson C; Canadian Critical Care Society; Canadian Critical Care Society. Evidence-based clinical practice guideline for the prevention of ventilator-associated pneumonia. *Ann Intern Med.* 2004 Aug 17;141(4):305-13.
23. Massanari RM, Wilkerson K, Streed SA, et al. Reliability of reporting nosocomial infections in the discharge abstract and implications for receipt of revenues under prospective reimbursement. *Am J Public Health* 1987; 77: 561-564
24. Smulders K, van der Hoeven H, Weers-Pothoff I, Vandenbroucke-Grauls C. A randomized clinical trial of intermittent subglottic secretion drainage in patients receiving mechanical ventilation. *Chest.* 2002 Mar;121(3):858-62.
25. Kollef MH, Skubas NJ, Sundt TM. A randomized clinical trial of continuous aspiration of subglottic secretions in cardiac surgery patients. *Chest.* 1999 Nov;116(5):1339-46.

# Portex Suction Above The Cuff Tracheal Tube (SACETT™)



ORDERING INFORMATION			
SACETT™	I.D.(mm)	O.D.(mm)	Cuff resting dia.(mm)
100/189/060	6.0	9.0	23.0
100/189/065	6.5	9.7	23.0
100/189/070	7.0	10.4	30.0
100/189/075	7.5	11.1	30.0
100/189/080	8.0	11.9	30.0
100/189/085	8.5	12.4	30.0
100/189/090	9.0	12.8	30.0

## Support Material



Ventilator Associated Pneumonia-  
A Nurses Guide

THE DETAILS GIVEN IN THIS LEAFLET ARE CORRECT AT THE TIME OF GOING TO PRESS. THE COMPANY RESERVES THE RIGHT TO IMPROVE THE EQUIPMENT SHOWN.

### Smiths Medical International Ltd

Hythe, Kent CT21 6JL UK

Tel: +44 (0)1303 260551 Fax: +44 (0)1303 266761

www.smiths-medical.com

Smiths Medical, part of the global technology business Smiths Group

Portex, SuctionPro 72, SACETT, Stericath, Suctionaid, Blue Line Ultra and the Smiths Medical Design Mark are trademarks of the Smiths Medical family of companies. © 2006 Smiths Medical family of companies. All rights reserved.  
Literature No. LIT/AM2765

smiths medical