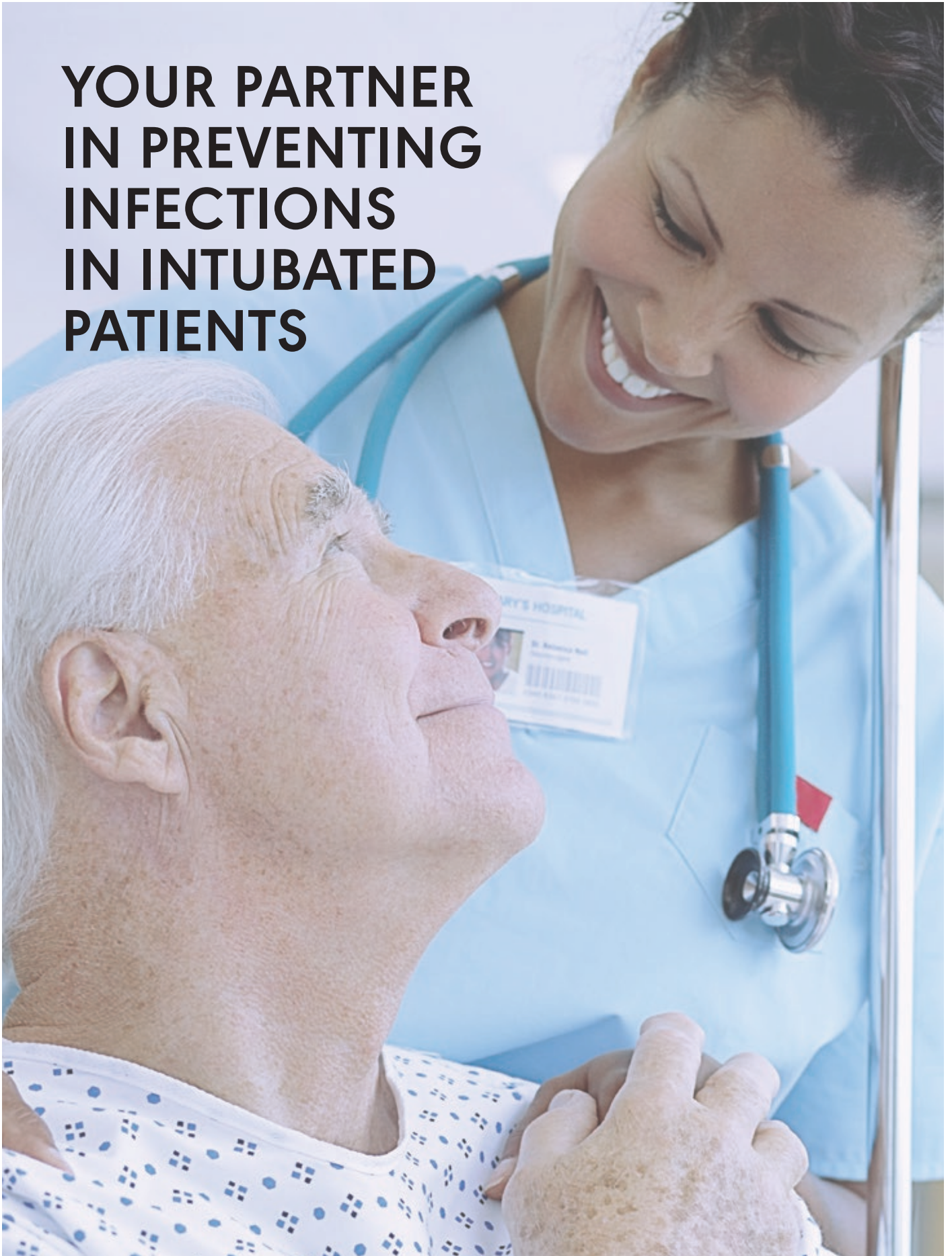


**YOUR PARTNER  
IN PREVENTING  
INFECTIONS  
IN INTUBATED  
PATIENTS**



# INFECTION PREVENTION IN HOSPITALS

## HOSPITAL-ACQUIRED INFECTIONS (HAI) - A MAJOR CLINICAL CONCERN

- In Europe, HAI (Hospital-Acquired Infections) cause 16 million extra days of hospital stay and 37 000 attributable deaths (and contribute to an additional 110 000). Associated costs: approximately € 7 billion annually.<sup>1</sup>
- Pneumonia is the main HAI ranging between 25-50% of total cases.<sup>2</sup>
- Approximately 86% of hospital-associated pneumonia is linked to mechanical ventilation<sup>15</sup>
- VAP (Ventilator-Associated Pneumonia) attributable mortality: between 7% and 30%<sup>1</sup>; excess costs: € 16-33K<sup>3</sup> per case; excess hospital length of stay: up to 14 days<sup>4</sup>

## INFECTION PREVENTION IS A MULTI-FACETED APPROACH<sup>16</sup>

VAP is the most common and fatal infection of the ICU. There are various potential sources of infection that are believed to increase the risk of VAP:

- Oral cavity
- GI colonisation and reflux
- Subglottic secretions
- Inhalation of pathogens
- Patient-to-patient
- Contaminated equipment
- Breaking ventilator circuit

## CONSISTENT COMPLIANCE WITH CLINICAL GUIDELINES CAN HELP REDUCE VAP<sup>5</sup>

**“Reducing mortality due to VAP requires an organized process that guarantees early recognition of pneumonia and consistent application of the best evidence-based practices.”<sup>6</sup>**

- Institute for Healthcare Improvement



### PREVENT CONTAMINATION

- Infection Control
- Disinfection and sterilisation
- Care and maintenance of equipment and devices



### REDUCE COLONISATION

- Oral hygiene
- Nasal hygiene
- Common suction protocol
- Closed suction rinse protocol, when closed suction system is used
- Condensation traps
- Stress ulcer prophylaxis



### REDUCE OR PREVENT ASPIRATION

- Elevate head of bed 30-45°
- Tracheal seal designed to reduce micro-aspiration
- Cuff pressure maintenance
- Enteral feeding/preventing gastric distention or reflux
- Subglottic suction



### BOOST DEFENSES

- Oral vs. nasal tube placement
- Ventilator weaning or discontinuation
- Vaccination

# AVANOS\* RESPIRATORY HEALTH SOLUTIONS

## ORAL CARE SOLUTIONS

### AVANOS\* ORAL CARE Q4 KIT AND INDIVIDUAL COMPONENTS

Conveniently packaged oral care kits and systems – designed by nurses for nurses, providing consistent and comprehensive oral care

- 9 out of 10 clinicians agree that AVANOS\* Oral Care q4 Kit encourages oral frequency<sup>7</sup>
- Helps promote compliance to protocol
- Innovative self-cleaning covered Yankauer (featuring technology from BALLARD\*)
- Easy to use suctioning toothbrush

**“Good oral hygiene measures help reduce the number of colonized bacteria in the mouth and prevent the spread of infection from the oral cavity to the lower respiratory tract.”<sup>8,9</sup>**



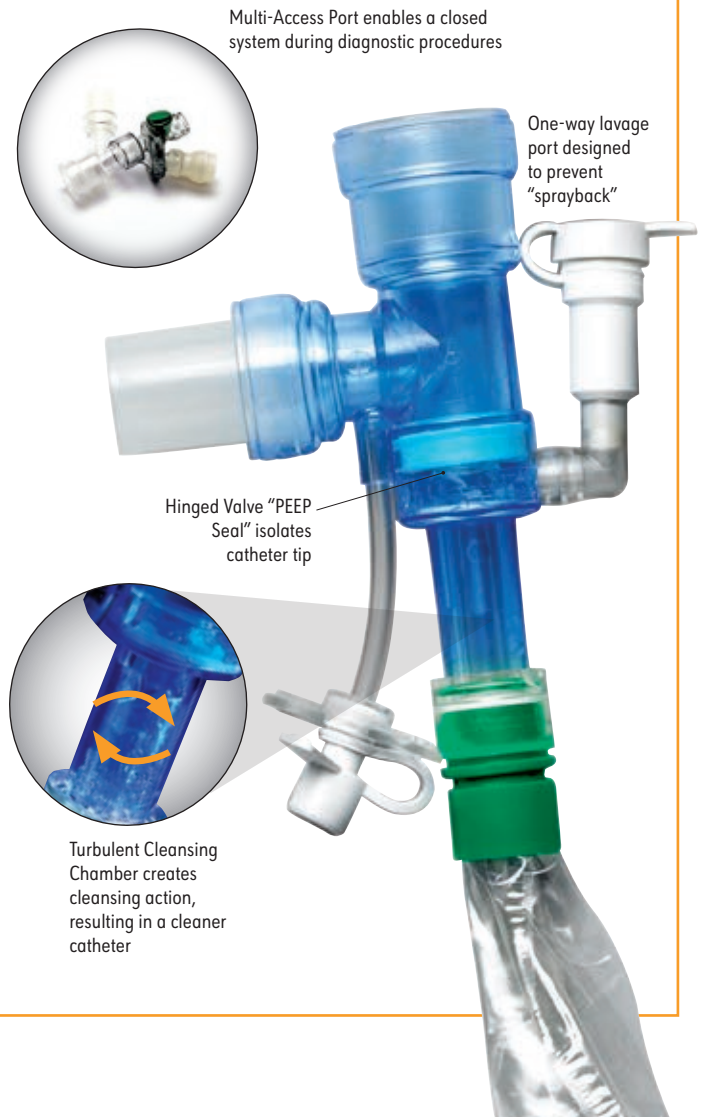
## CLOSED SUCTION SYSTEMS

### AVANOS\* CLOSED SUCTION SYSTEMS WITH BALLARD\* TECHNOLOGY

The AVANOS\* Turbo-Cleaning Catheter with turbulent cleaning action reduces bacterial colonisation by 89% compared to standard closed suction systems<sup>10</sup>

- Closed suction systems reduce the opportunity for contamination to occur from outside pathogens, thus reducing the bacterial colonisation within the circuit<sup>11</sup>

**“The pathogenesis of VAP...is linked to two separate but related processes: colonisation of the aerodigestive tract with pathogenic bacteria, and aspiration of contaminated secretions.”<sup>12</sup> – Kollef, et al. Respiratory Care, 2005**





# FOR EFFECTIVE INFECTION PREVENTION

## ENDOTRACHEAL TUBES

### AVANOS\* MICROCUFF\* SUBGLOTTIC SUCTIONING ENDOTRACHEAL TUBES

Provide an effective tracheal seal designed to reduce micro-aspiration – a known cause of VAP<sup>13</sup>

- Combine more effective subglottic suctioning with our advanced MICROCUFF\* polyurethane cuff technology to provide an effective protection against micro-aspiration<sup>13,14</sup>
- More effective at preventing and clearing clogs. Thanks to saline rinsing, improved fit and seal of polyurethane cuff, subglottic suctioning is easy and smooth<sup>13,14</sup>

Provides an effective seal at low cuff pressure, reducing risk of tracheal trauma



## ENDOTRACHEAL TUBES

### AVANOS\* MICROCUFF\* ENDOTRACHEAL TUBES

- AVANOS\* MICROCUFF\* Endotracheal Tubes feature an advanced microthin polyurethane cuff
- The cylindrical shaped polyurethane cuff provides a superior tracheal seal for a wider range of trachea sizes and cuff sealing pressures compared to leading PVC cuffed tubes



## DIAGNOSTIC CATHETERS

### AVANOS\* MINI-BAL SAMPLING CATHETER

Enables early, accurate diagnosis of VAP providing accuracy similar to bronchoscopic Broncho-Alveolar Lavage

- Simple, effective bronchoalveolar lavage at the bedside
- Allows safe BAL high yield samples within a short period of time
- Provides safety and accuracy to clinicians where bronchoscopy is not readily available

Radiopaque soft, atraumatic directional tip allows right or left lung sampling





## **KNOWLEDGEABLE CUSTOMER SUPPORT**

- In-service training
- Product technical support
- Knowledgeable customer service

## **EXPERT SALES FORCE**

- Healthcare industry expert sales force
- On-site trained in hospitals

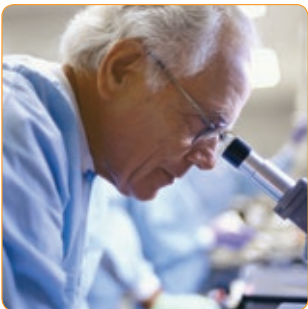


## **COMPLIANCE TOOLS & BEST PRACTICES**

- Utilisation reviews
- Product use and selection tools
- Best practices/ industry guidelines

## **CLINICAL RESEARCH**

- Staff medical professionals to advise and direct clinical research
- Peer-to-peer consultation



## **PURPOSEFUL INNOVATION**

- Ongoing research and development delivering industry-defining solutions to today's clinical issues

## **COMMITMENT TO EXCELLENCE**

**References:** 1. Report on the Burden of Endemic Health Care-Associated Infection Worldwide. 2. EPIC study Vincent JAMA 1995. 3. Bercault, N., & Boulain, T. (2001). Mortality rate attributable to ventilator-associated nosocomial pneumonia in an adult intensive care unit: A prospective case-control study. *Crit Care Med*, 29(12), 2303. (The exchange rate applied for \$ to € conversion is \$ 1.4 = € 1). 4. Eber et al. *Arch Intern Med* 2010;170:347-53. 5. Zack, Jeanne E; Coopersmith, Craig; Lantz, Jeff; Van Hooser, Theron; Truscott, Wava; Ohler, Linda; Ventilator-Associated Pneumonia, Reducing the Risk, Kimberly-Clark Knowledge Network Education. 6. Institute for Healthcare Improvement. Implementing the ventilator bundle. [www.ihl.org/IHI/Topics/CriticalCare/IntensiveCare/Changes/ImplementtheVentilatorBundle.htm](http://www.ihl.org/IHI/Topics/CriticalCare/IntensiveCare/Changes/ImplementtheVentilatorBundle.htm). Accessed March 30, 2009. 7. 354 product evaluations from 27 hospitals in U.S. were completed by nurses and respiratory therapists. 8. Senol G, MD et al. In vitro antibacterial activities of oral care products against ventilator-associated pneumonia pathogens. Study presented at the 6th Congress of the IFIC, October 13-16, 2005 in Istanbul, Turkey. Association for Professionals in Infection Control and Epidemiology, Inc. doi:10.1016/ajic.2006.10.016. 9. Abidis, RF. Oral care in the intensive care unit: A review. *J. Contemp Dent Pract* 2007 January; (8)1:076-082. 10. BALLARD Critical Care Products TRACH CARE™ 72 Microbiology Report. Nelson Laboratories Final Reports, Laboratory Numbers 184343,163901. 11. Freytag, C.C. Thies, F.L., Konig W., Welte T. (2003) Infection, *Clinical and Epidemiological Society*, 31-2003-No. 1. 12. Kollef, MH, Bock, KR, Richards, RD, Hearn ML, (1995). The safety and diagnostic accuracy of minibronchoalveolar lavage in patients with suspected ventilator-associated pneumonia. *Ann Intern Med*. 1995, May 15; 122(10): 743-8. 13. Data on file 510K Clearance K120985. 14. Data on file. Directions for Use for the AVANOS™ MICROCUFF™ Subglottic Suctioning Endotracheal Tube. 15. Richards, MJ, Edwards, JR, Culver, DH, Gaynes RP (1999). Nosocomial infections in medical intensive care units in the United States. National Nosocomial Infections Surveillance System. *Crit Care Med*. 1999, May 27(5) 887-92. 16. The impact of a ventilator bundle on preventing ventilator-associated pneumonia: a multicenter study. JS Eom et al, *Am J Infect Control*. 2014.

---

For more information, please contact your Avanos Customer Service Team:

From UK & IE: tel: 0800 917 65 85 – fax: 0800 169 02 35  
[customerservice.uk.ie@avanos.com](mailto:customerservice.uk.ie@avanos.com)

From other countries: tel: +32 2 700 68 51 – fax: +32 2 711 26 91  
[customerservice.export@avanos.com](mailto:customerservice.export@avanos.com)

[www.avanos.co.uk](http://www.avanos.co.uk)

**AVANOS**