

Blue Line Ultra® Suctionaid® Tracheostomy Tubes Can Reduce Ventilator Associated Pneumonia Rates

VAP



Ventilator Associated Pneumonia (VAP) is the most common nosocomial infection in patients receiving mechanical ventilation and accounts for half of all antibiotics given in the intensive care unit (ICU)¹

14.2% - 18%



Prevalence of microbiologically documented VAP in European ICUs is 14.2% and of suspected 18%²

14.5% - 27.6%



VAP³ is one of the leading risk factors associated with ventilator-associated conditions (14,5%) and infection-related complications (27,6%)

THE VALUE OF A PREVENTIVE STRATEGY

01

One of the the main factors of VAP is the accumulation and stasis of contaminated mucus and subglottic secretions above the cuff of tracheostomy^{4,5}

02

An effective preventive strategy includes the removal of subglottic secretions by drainage with the use of special tracheal tubes to prevent both early and late onset VAP^{1,4}

03

When applied as part of a preventive strategy, tracheostomy tubes with suction above the cuff (such as Blue Line Ultra® Suctionaid®) can reduce VAP rates, leading to improved patient outcomes and decreases the length of stay in ICU

04

Absence of subglottic secretion drainage is a risk factor of VAP, which is the most frequent life-threatening nosocomial infection in the ICU⁶

05

Subglottic secretion drainage with the use of special tracheostomy tubes such as the Blue Line Ultra® Suctionaid® tubes reduces the incidence of VAP in critically ill patients requiring ongoing mechanical ventilation with tracheostomy¹

CLINICAL CONSEQUENCES



VAP is associated with a 2 to 7-fold increase in risk of death^{8,9}

On average, VAP increases hospital ICU length of stay by 4-9 days^{8,10,11}

Two European studies have shown VAP to increase a stay in the ICU up to 12 to 13 days per patient^{10,11}

VALUE OF A PROPHYLACTIC STRATEGY



Each ICU day with mechanical ventilation costs approximately €1,426¹²

Based on the average increase in length of stay, a prophylactic strategy can generate an average savings of €17,112 to €18,538 per patient¹³

These savings not only help avoid incremental costs which are not reimbursed, they also improve the effective utilization of healthcare resources¹³

ECONOMIC BURDEN

ICU patients with VAP require significantly more resources¹⁴:

97,7 more hours for extubation¹⁴



10,5 additional days of ventilation¹⁴



25,5 additional days of hospitalization¹⁴



The extended hospitalization period is typically not covered by reimbursement systems, resulting in significant costs to the hospital¹⁴



A German study estimated the hospital cost per ICU patient for a ventilator-associated lower respiratory tract infection as €17,015^{12,13}

REFERENCES

1. Kalanuria AA, et al.: Ventilator-associated pneumonia in the ICU. *Critical Care* 2014, 18:208.
2. Kouletli D, Lisboa T, Brun-Buisson C, et al. Spectrum of practice in the diagnosis of nosocomial pneumonia in patients requiring mechanical ventilation in European intensive care units. *Crit Care Med*. 2009;37(8):2360-2368.
3. Bouadma L, et al. Ventilator-Associated Events: Prevalence, Outcome, and Relationship with Ventilator-Associated Pneumonia. *Critical Care Medicine*. 43(9):1798-1806, SEP 2015
4. Ledgerwood, Levi G., et al. "Tracheostomy tubes with suction above the cuff reduce the rate of ventilator-associated pneumonia in intensive care unit patients." *Annals of Otolaryngology & Laryngology* 122.1 (2013): 3-8.
5. Muscedra, John, et al.: Subglottic secretion drainage for the prevention of ventilator-associated pneumonia: A systematic review and meta-analysis. *Critical Care Medicine*. 39(8):1985-1991, August 2011
6. Timsit JF, Esaïed W, Neuville M et al. Update on ventilator-associated pneumonia [version 1; referees: 2 approved] *F1000Research* 2017, 6(F1000 Faculty Rev):2061
7. Terragni P, Brazzi L, Falco D, Pistidda L, Magni G, Bartoletti L, Mascia L, Filippini C, Ranieri V. Occurrence of Ventilator-Associated Pneumonia using Tracheostomy Tubes with Subglottic Secretion Drainage (VICTOR study); *Critical Care* 2017, 21 (Suppl 1):60
8. Klein Klouwenberg PMC, van Mourik MSM, Ong DSY, et al. Electronic implementation of a novel surveillance paradigm for ventilator-associated events: feasibility and validation. *Am J Respir Crit Care Med* 2014;189:947-55
9. Safdar N, Dezfulian C, Collard HR, et al. Clinical and economic consequences of ventilator-associated pneumonia—a systematic review. *Crit Care Med* 2005;33:2184-93
10. Fagon J-Y, Chastre J, Hance AJ, et al. Nosocomial pneumonia in ventilated patients: a cohort study evaluating attributable mortality and hospital stay. *Am J Med* 1993;94:281-8
11. Leistner R, Kankura L, Bloch A, Sohr D, Gastmeier P, Geffers C. Attributable costs of ventilator-associated lower respiratory tract infection (LRTI) acquired on intensive care units: a retrospectively matched cohort study. *Antimicrob Resist Infect Control* 2013; 2: 13.
12. Neurohr Martin J., Bauer C., M. et al. *Anesthetist* (2008) 57:505.
13. Amin Alpesh, Clinical and Economic Consequences of VAP. *Clinical Infectious Diseases*, 2009;49:536-43
14. Dessap et al Ventilator-Associated Pneumonia During Weaning From Mechanical Ventilation - Role of Fluid Management; *CHEST* 2014; 146(1):58-65

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