with increased VAP rates (Samransamruajkit, Jirapaiboonsuk, Siritantiwat, et al, 2010).

- Use of low-sodium solution for airway care was associated with a decrease in VAP as well as chronic lung disease (Christensen, Henry, Baer, et al, 2010).

- In bronchoalveolar lavage fluid, PAI-1 levels can aid in early diagnosis of VAP (Srinivasan, Song, Wiener-Kronish, et al, 2011).

- Reduced mortality rates were observed in patients with VAP when silver-coated ET tube was used versus uncoated ET tube (Afessa, Shorr, Anzueto, et al, 2010).

Apply the Evidence: Nursing Implications

There is **moderate evidence** with a **strong recommendation** (Guyatt, Oxman, Vist, et al, 2008) for use of interventions to prevent VAP in children. Some prevention methods included in VAP bundles are hand hygiene, oral hygiene, use of PPE, elevation of head of bed 30 to 45 degrees, and more. Staff education and engagement in VAP prevention initiatives is important.

ET, Endotracheal; *ICU,* intensive care unit; *PAI,* plasminogen activation inhibitor; *PPE,* personal protection equipment; *VAP,* ventilator-associated pneumonia.

References

Afessa B, Shorr AF, Anzueto AR, et al. Association between a silver-coated endotracheal tube and reduced mortality in patients with ventilator-associated pneumonia. *Chest*. 2010;137(5):1015–1021.

Aly H, Badawy M, El-Kholy A, et al. Randomized, controlled trial on tracheal colonization of ventilated infants: can gravity prevent ventilator-associated pneumonia? *Pediatrics*. 2008;122(4):770–774.

Bigham MT, Amato R, Bondurrant P, et al. Ventilator-associated pneumonia in the pediatric intensive care unit: characterizing the problem and implementing a sustainable solution. *J Pediatr*. 2009;154(4):582–587.