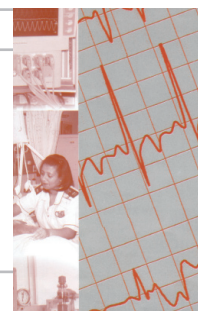


Word of mouth goes a long way for critically ill patients



This edition of the journal looks at the Therapeutic Intervention Scoring System (TISS) and ventilator-associated pneumonia (VAP). TISS may be used as an indicator for the severity of illness of critically ill patients and to assess the nursing workload with regard to therapeutic, diagnostic and nursing activities. TISS is also used to determine nurse-to-patient ratios and assess current bed utilisation and need in order to provide optimal and appropriate nursing care.

VAP is defined as inflammation of the lung parenchyma caused by infection occurring 48 - 72 hours after endotracheal intubation.¹ It is the most common and fatal nosocomial infection in intensive care.

Non-use of TISS, or its inappropriate use, may have a profound impact on nursing care standards and delivery. This may have a domino effect and increase and/or worsen the incidence of VAP. But sometimes it is the little things that can make a big difference.

Providing oral comfort and hygiene for patients in intensive care units (ICUs) is challenging. McNeill² emphasises that in caring for critically ill patients in a busy and stressful unit, oral care may have lower priority than other aspects of nursing care. One of the most important aspects of nursing care for patients receiving mechanical ventilation is oral comfort and hygiene, but a gap exists between what oral care measures are indicated and the actual care patients receive.³ No comprehensive guidelines or standards existed defining tasks, methods and frequency of oral care interventions before 2005,¹ so great variability exists from nurse to nurse and unit to unit.

In two recent reports^{4,5} different aspects of oral care practice for critically ill patients have been demonstrated. In a study of ICU nurses, oral care for intubated patients was provided 5 times or more daily using sponge swabs. However, documentation on the flow sheets revealed that oral care was performed only slightly more than once a day.⁴ In the second study, Sole *et al.*⁵ found that less than half of the sites participating in the Survey of Suctioning Techniques and Airway Management Practices Study had a written oral care policy for intubated patients, although critical care nursing manuals recommend oral care every 2 hours where possible. Interestingly, most nurses

participating in this study stated that mouth care with swabs was performed every 4 hours, but in another investigation Sole *et al.*⁶ found that 67% of patients had not had any oral care documented within the preceding 4 hours. The disparity between what nurses think they do and what is actually documented raises questions about the reliability of documentation and consistency of practice.³

Studies examining oral care methods of ICU nurses have found that many nurses do not use evidence-based oral care methods; rather, an institutional or 'this is how we do it here' policy is in place. Useful resources are the British Society of Disability and Oral Health Guidelines⁷ and the Guidelines for Preventing Health-Care Associated Pneumonia.⁸ The American Association of Critical Nurses has a 'Practice Alert' on oral care for the critically ill⁹ and recommends the following:

- Brush patients' teeth, gums and tongue at least twice a day using a soft paediatric or adult toothbrush.
- In addition to brushing, apply moisture to the oral mucosa and lips every 2 - 4 hours.
- Use an oral chlorhexidine gluconate (0.12%) rinse twice a day during the peri-operative period for adult patients who undergo cardiac surgery. No evidence to support routine use of this rinse in other ICU populations is available at this time.

Hayes and Jones¹⁰ recommend the use of the BRUSHED Assessment Model (Fig. 1). By implementing this model, nurses are prompted to check for specific clinical signs during oral assessment. Although quite outdated, it may offer some use for the multidisciplinary team including nurse educators.

A simple oral care protocol for your unit may look something like that set out in Fig. 2.

Frequency of oral care for mechanically ventilated patients is an area of controversy. Day¹¹ and Jenkins¹² suggest that the frequency should be based on the scores from an 'at risk' calculator, and Trenter and Creason¹³ recommend that oral care be given between 2- and 4-hourly, depending on how ill the patient is. This is an area that requires more research.

B	BLEEDING? (Gums, mucosa, coagulation status)
R	REDNESS? (Gum margins, tongue, antibiotic stomatitis)
U	ULCERATION? (Size, shape, herpetic, infected)
S	SALIVA? (Xerostomia, hypersalivation, character of saliva)
H	HALITOSIS? (Character, acidotic, infected)
E	EXTERNAL FACTORS? (Angular cheilitis, ET tapes)
D	DEBRIS? (Visible plaque, foreign particles)

Fig. 1. The BRUSHED Assessment Model.

Oral cavity assessed (daily 10h00)
Teeth brushed (2 × shift)
Lips and mouth moistened (2-hourly)
Suctioning mouth/oropharynx/nares, suction tubing changed (as required)
Tracheostomy care, ET tapes changed (as required)

Fig. 2. A simple oral care protocol.

Having looked at the recommendations, guidelines and some of the literature, the following are recommended:¹⁴

- Individual oral care requirements for ICU patients should be considered as part of the admission assessment.
- Education of nurses to provide skills in oral assessment and oral care is essential (why not utilise the knowledge and skills of a dental hygienist?).
- The used of the BRUSHED Assessment Model may be useful for the immediate identification of oral complications and can be done once per shift,

preferably in the morning.

- Brushing the teeth every 12 hours and oral moistening every 2 hours is recommended until further research is done in this area.
- Hydrogen peroxide and sodium bicarbonate are to be used cautiously. If these solutions are not diluted adequately, superficial burns may result.
- Lemon glycerine swab sticks can cause irritation and decalcification of teeth.

Although the area of oral care in the ICU requires more evidence-based researched protocols, the design of a simple assessment tool and protocol will increase the frequency and comprehensiveness of oral care provided to critically ill patients. Get your teeth around that one and give it a go!

Nicki Fouché

Senior Lecturer
Division of Nursing and Midwifery
Faculty of Health Sciences
University of Cape Town

1. Scott JM, Vollman KM. Endotracheal tube and oral care. In: Lynn-McHale DJ, Carlson KK, eds. *AACN Procedure Manual for Critical Care*. 5th ed. Philadelphia: WB Saunders, 2005: 28-33.
2. McNeill H. Biting back at poor oral hygiene. *Intensive Crit Care Nurs* 2000; 16: 367-372.
3. Cutler CM, Davis N. Improving oral care in patients receiving mechanical ventilation. *Am J Crit Care* 2005; 14: 389-394.
4. Grap MJ, Munro CL, Ashtiani B, Bryant S. Oral care interventions in critical care: frequency and documentation. *Am J Crit Care* 2003; 12: 113-118.
5. Sole ML, Byers JF, Ludy JE, et al. A multi-site survey of suctioning techniques and airway management practices. *Am J Crit Care* 2003; 12: 220-230.
6. Sole ML, Poalillo FE, Byers JF, Ludy JE. Bacterial growth in secretions and on suctioning equipment of orally intubated patients: a pilot study. *Am J Crit Care* 2002; 11: 141-149.
7. British Society of Disability and Oral Health Guidelines for the development of local standards of oral health care for dependent, dysphagic, critically and terminally ill patients (revised January 2000). <http://www.bsdo.org.uk/guidelines.html> (accessed 12 November 2009).
8. Tablan OC, Anderson LJ, Bresser R, Bridges D, Hajeh R, and preparers. Guidelines for preventing health-associated pneumonia, 2003: Recommendations of CDC and the Healthcare Infection Control Practice Advisory Committee, Atlanta, Georgia. Centres for Disease Control and Prevention. http://www.cdc.gov/ncidod/hip/guide/CDCpneumo_guidelines.pdf (accessed 12 November 2009).
9. American Association of Critical Care Nurses. Practice alert for oral care in the critically ill. <http://classic.aacn.org/AACN/practiceAlert> (accessed 12 November 2009).
10. Hayes J, Jones C. A collaborative approach to oral care during critical illness. *Dental Health* 1995; 34: 6-10.
11. Day R. Mouth care in an intensive care unit: a review. *Intens Crit Care Nurs* 1993; 9: 246-252.
12. Jenkins DA. Oral care in the ICU: an important nursing role. *Nursing Standard* 1989; 4: 24-28.
13. Trenter RP, Creason NS. Nurse administered oral hygiene: is there a scientific basis? *J Adv Nurs* 1986; 11: 323-331.
14. Randa A. Oral care in the intensive care unit: a review. *J Contemp Dent Pract* 2007; 8: 076-082.