

Oral health assessment:

A neglected component of comprehensive oral care

by Karen J. Ridley, RDH, MS and Suzanne M. Pear, RN, PhD, CIC

Hospital-acquired pneumonia (HAP), including ventilator-associated pneumonia (VAP), has been recognized as a highly lethal, iatrogenic event. Prevention requires significant and specific prophylactic interventions, such as frequent oral care and aspiration precautions.^{1,2} However, one has only to review nursing texts to notice that oral assessment and care receive minimal attention.^{3,4} The reduction in the incidence of VAP following in depth education programs and improved oral care has been well documented in a number of studies.^{5,7} This article, the first of two devoted to oral care for prevention of HAP/VAP, will focus on the specific steps necessary to conduct an oral assessment of hospitalized and ventilated patients as the prerequisite and initial component of comprehensive oral care.

Standard precautions

Hand hygiene, when entering and leaving each patient's bedside and immediately before donning and after removing gloves, is the standard of care and must be adhered to. In addition, Standard Precautions compliance would counsel that the care provider wear a face shield or mask and eye covering and single-use cover or isolation gown to minimize the risk of self-contamination with the patient's secretions during the oral assessment and care delivery, as these procedures may generate gagging, coughing and splatter.

Oral inspection

Oral inspection, the process of examining the soft tissues of the lips, buccal mucosa, mucobuccal fold, tongue, hard and soft palate and floor of the mouth is important and should be a daily part of a patient's oral care.⁸ The oral care provider should use either a disposable mouth mirror or a tongue depressor, along with a flash light for this procedure/inspection. One way to standardize the process and track progress is through the use of a daily oral health assessment form which helps to formalize the steps and record the inspection findings. To begin the inspection, the lips and corners of the mouth are examined for cracks, ulcers and pressure erosion from tubes and tape. The cheek tissues should be gently retracted

so that soft tissue and gums can be clearly seen. Presence of foul odor, vesicles, pustules or other abnormalities should be reported and treated immediately.

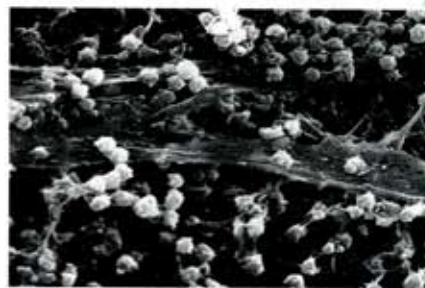
Salivary volume

The risk of infection increases with a decrease in salivary flow.⁹ Prescription drugs, diabetes, age and dehydration are common causes of xerostomia (dry mouth). The endotracheal tube in the oropharynx of the ventilated patient, which forces the mouth to remain open, also contributes to decreased salivary flow and distribution. Nurses can assess dryness of the mucosal tissues by placing a gloved finger against the tissue. In a well lubricated mouth the finger will slide easily along the tissue. When xerostomia is present, the glove will stick, indicating that dry mouth care is needed. Mucositis, oral tissue inflammation, should also be watched for, as it follows quickly on the heels of xerostomia and is linked with gram-negative oral mucosa colonization and subsequent increased risk of HAP/VAP.¹⁰

Xerostomia also increases the risk for oral candidiasis (thrush). Nurses should be trained to assess the mouth for thrush, which presents as white patches on the tongue, soft palate, cheek, gingivae or pharynx and which are easily rubbed off, leaving red, raw and bleeding areas beneath.¹¹ These lesions may be very painful and if left untreated, will interfere with oral intake in the non-ventilated patient.

Teeth/dentures

Evaluating the condition of patient's natural and/or denture teeth is also important. Teeth should be visually inspected for any that may be missing, loose, broken, chipped, or abscessed. Dental bridges, partial or full dentures should be removed prior to endotracheal intubation in the ventilated patient, as well as in the confused or comatose patient, and placed in safe-keeping. The non-ventilated patient's dental prostheses should be removed and cleaned after each meal and before sleeping to minimize plaque formation and mouth ulcers. While examining the teeth, the tongue should be assessed for ulcers, blisters, cracking or coating with debris.



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Oral biofilm

The oral cavity provides a perfect environment for the formation of dental biofilms or plaque, a sticky, bacterial film which quickly forms on the surfaces of natural and denture teeth. If plaque is allowed to grow undisturbed, it will eventually harbor many pathogenic bacteria, including those known to increase risk of pneumonia. The amount of plaque present in the patient's mouth on admission is important to measure, chart and monitor. Pre-existing periodontal disease may require professional dental bedside intervention before any improvement is possible.

The assessment of a patient's state of oral health and oral care needs is a critical first step in the battle against HAP and VAP at the bedside. To ensure that all hospitalized patients receive this basic, but essential daily exam, it should be included in all HAP and VAP prevention education programs as well as every comprehensive oral care plan. **HPN**

Note: For a sample Daily Oral Health Assessment Form, see www.hpnonline.com, August 2008. You can also find the references for this story there.

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