9. Recommendations:

This section is based on a review of the cited meta-analysis, integrated reviews, and clinical practice guidelines published on mucositis (see Section 4 & 5).

Practice

1. The oral cavity should be assessed regularly using valid and reliable instruments to document "normal pattern" of changes seen with cancer treatment regimens.

2. Clearly document changes seen and "routine" oral care.

3. Implement an oral care protocol using
   a. Non-irritating agents
      i. Normal saline with or without baking soda
      ii. Sterile water
      iii. Avoid mouth washes with alcohol.
   b. Soft-bristle toothbrush
      i. Continue as long as tolerated if no uncontrolled bleeding present
      ii. Changed frequently especially when patient is neutropenic (at least every week during aplasia)
   c. Floss
      i. If a regular part of patient's oral care, continue as long as tolerated if no uncontrolled bleeding present.
   d. Use foam toothettes for cleansing of soft tissues and for teeth when tooth brush is not tolerated.

4. Use a multidisciplinary team approach to oral care to include the integration of dental health professionals as indicated by the status of a patient's oral cavity.
   a. Clean and repair teeth prior to initiation of immunosuppressive therapy.
   b. Treat potential problems prior to initiation of immunosuppressive therapy.
   c. Use the National Institute of Dental and Craniofacial Research/National Oral Health Information Clearing House document (English or Spanish) "Oral Health, Cancer, and You"

5. Use MASCC guidelines.

6. Identify individuals at risk for increased problems.

Education

1. Patients and family care providers should learn about
    a. The importance of oral care during cancer treatment to decrease morbidity and mortality
    b. Systematic care of oral cavity—promote health and avoid trauma
    c. Assessment of the oral cavity (i.e., at least daily during mucotoxic therapy)
    d. Signs and symptoms to report (i.e., changes in sensation or taste, presence of ulcerations and/or bleeding).
2. Healthcare providers should learn about
    a. The physical (morbidity and mortality), psychosocial, and financial costs of mucositis
    b. Awareness of proposed models for pathobiology associated with mucositis
    c. Use of valid and reliable oral cavity assessment tools
    d. Awareness of risk factors associated with mucositis
    e. Skills to critique oral care research to promote evidence-based practice
    f. Awareness of oral care agents with the potential to contribute to optimum oral health and those that are damaging to the mucosa.

Research

1. Conduct further validity and reliability testing of instruments to measure oral cavity changes.
2. Explore other clinical complications that accompany mucositis (e.g., pain, hemorrhage, xerostomia).
3. Explore factors that can be used to predict risk for mucositis.
4. Identify and test interventions for the prevention and treatment of mucositis, including combinations of agents during different phases of mucositis.
5. Identify optimum treatment approach for pain associated with mucositis.
6. Examine relationship of oral mucositis and systemic mucositis (can oral cavity serve as an indicator?).
7. Conduct randomized controlled trials of interventions for prevention and treatment of mucositis.
8. Explore fit of proposed biophysiologic model with actual mucositis to confirm phases and guide future interventions.
9. Expand intervention trials across diverse groups.
10. Continue work on guidelines for evidence-based practice.

Recommended Indicators and Timing of Measurement Across Settings

Research has not established recommended timing for measurement. DeWalt and Haines (1969) identified changes in the normal oral cavity within four hours of exposure to stressors (e.g., continuous nasal oxygen, mouth breathing, mechanical suction, nothing by mouth). High-dose chemotherapy and continuous-infusion chemotherapy has a more rapid onset of oral cavity changes than does intermittent bolus therapy. Frequency and duration of measurement should be determined by changes anticipated by the antineoplastic therapy, phase of mucosal change, and desired effect of the intervention more than the availability of professional staff to conduct the assessments.

Research literature also has not reached consensus regarding the domains to assess. Some instruments focus only on mucous membrane changes, and some include other aspects of the oral cavity such as saliva and teeth. Instruments vary in the inclusion of oral cavity function such as swallowing, speaking, and eating. Selection of an instrument should be determined by changes anticipated by antineoplastic therapy and the desired effect of the intervention.

DeWalt, E.M., & Haines, A.K. (1969). The effects of specified stressors on healthy oral mucosa. Nursing Research, 18, 22-27.

Eilers, J., & Epstein, J.B. (2004). Assessment and measurement of oral mucositis. *Seminars in Oncology Nursing, 20,* 22-29.

Hyland, S.A. (2004). Assessing the oral cavity. In M. Frank-Stromborg & S.J. Olsen (Eds.), *Instruments for clinical health-care research* (3rd ed., pp. 594–602). Sudbury, MA: Jones and Bartlett.