Clinical Practice Statement: Dental Evaluation Prior to Head and Neck Radiotherapy With or Without Chemotherapy

Subject: Dental Evaluation Prior to Head and Neck Radiotherapy With or Without Chemotherapy

The AAOM affirms that risk factor assessment for oral diseases including oral and oropharyngeal cancers, and a non-invasive visual and tactile oral mucosal examination is part of the standard initial and recall visit by oral health care providers and is recommended for all patients. Originator: Dr. Douglas E. Peterson, DMD, Ph.D, FDS RCSEd.

This Clinical Practice Statement was developed as an educational tool based on expert consensus of the American Academy of Oral Medicine (AAOM) leadership. Readers are encouraged to consider the recommendations in the context of their specific clinical situation, and consult, when appropriate, other sources of clinical, scientific, or regulatory information prior to making a treatment decision.

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Purpose

The AAOM affirms that delivery of medically necessary dental care prior to high-dose head and neck radiation therapy may reduce the risk of oral complications during cancer treatment such as oral mucositis, oral infections, and late complications such as osteonecrosis.

Methods

This statement is based on a review of current dental and medical literature related to the rationale for providing medically indicated dental care to cancer patients for whom high-dose radiation therapy (with or without concomitant chemotherapy) is planned. A MEDLINE search was conducted using the terms “oral cancer”, “radiation”, and “dental care.” Expert opinion and best current practices were relied upon when systematically-derived clinical evidence was not available.

Background

Data from The American Cancer Society estimate that approximately 37,000 individuals in the
United States will develop cancer of the oral cavity or oropharynx in 2014, with more than twice as many men than women developing the malignancy (1). It is also estimated that approximately 7,300 people will die from these cancers in 2014.

Depending upon stage of the malignancy, head and neck radiation at the level of 6,000-7,000 cGy may represent optimal opportunity for cure or long-term tumor control (2-4).

Acute and/or chronic oral toxicity can develop in these patients and is directly linked to radiation portals as well as level of radiation dose that is administered (3, 4). The dentition, periodontium, mucosa, and/or salivary glands may be at risk. The role of oral care, initiated in the weeks prior to the head and neck radiation, is recognized in its importance in mitigating acute and late effects in these patients.

Education of patients and caregivers regarding the importance of medically necessary dental care in the weeks prior to initiation of high-dose head and neck radiation is essential. However, information in the public domain may not always be user friendly for these individuals (5). Dentists with training in Oral Medicine, Special Care, or Hospital Dentistry are experienced in the oral management of the head and neck cancer patient and can translate the complex biologic and clinical decision-making relative to pre-radiation dental care. In addition, a comprehensive care team that includes such clinicians can provide valuable information relative to literature-based oral care interventions designed to lessen the intensity of acute and chronic oral toxicity (3, 6).

There is increasing emphasis as well in oncology practice to reduce cost of care while enhancing efficacy of cancer treatment (7). Minimizing the risks of oral related complications during and after treatment may contribute to reducing overall costs of care.

**Clinical Practice Statement:**

1. The AAOM recognizes that:
   1. patients undergoing radiation with or without chemotherapy are at a significant risk for dental caries, periodontal disease (tooth loss) and osteonecrosis.
   2. oral care will reduce the risk of developing acute infection during treatment, reduce the risk of mucositis, and reduce the risk of osteonecrosis by eliminating teeth with poor prognosis.

2. The AAOM recognizes that preventive oral care is essential in order to minimize severity of acute and/or chronic adverse events associated with high-dose head and neck radiation. The pre-radiation dental management phase should thus incorporate:
   1. patient education as to potential oral side effects as well as strategies to prevent or mitigate their occurrence
   2. comprehensive oral hard and soft tissue diagnostic examination
   3. development of a dental treatment plan that anticipates possible complications during radiation
   4. fabrication of customized trays. Trays should be used to deliver topical fluoride beginning
with the end of radiation treatment
5. oral hygiene and dietary counseling.

6. The AAOM recognizes that the ability of the head and neck radiation patient to comply with oral health care recommendations is dependent upon a number of patient-related variables. Strategies to optimize long-term oral health outcomes should include:
   1. understanding the importance of compliance after completion of head and neck radiation, including frequency of oral/dental evaluations as well as customized approaches for prevention of late effects on the oral cavity from the radiation
   2. motivation
   3. access to transportation and financial resources.

References:


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