

Periodontitis

Recommendation 3.17. It is recommended that primary care clinicians: a) should refer HNC survivors to a general dentist or periodontist for thorough evaluation (LOE = 0); and b) should counsel HNC survivors to seek regular treatment from and follow recommendations of a qualified dental professional and reinforce that proper examination of the gingival attachment is a normal part of ongoing dental care (LOE = 0).

Clinical interpretation. Loss of gingival attachment within the radiation field can lead to subsequent dental infections, loss of teeth, and osteonecrosis, which can become a systemic health issue.¹¹⁸ This condition can go unnoticed by the patient, as it is not usually painful, and signs of advancement cannot be readily detected upon visual examination of the oral cavity. Rapid deterioration of the supporting structures of the teeth is sometimes seen after HN RT and may lead to deep periodontal pockets, which can subsequently lead to infection or tooth loss.¹¹⁹ This situation can increase the risk of osteoradionecrosis, a devastating complication with loss of the jawbone requiring debridement, hyperbaric oxygen treatments, and eventually reconstruction. Preextraction and postextraction hyperbaric oxygen treatments from a certified facility should be considered if a tooth extraction becomes necessary. Management of advancing periodontal disease requires intervention and ongoing management by a qualified dental professional.¹¹²

Xerostomia

Recommendation 3.18. It is recommended that primary care clinicians: a) should encourage use of alcohol-free rinses if an HNC survivor requires mouth rinses to rehydrate the mucosa, neutralize pH, break-up mucus, and prevent crusting of the oral mucosa (a simple rinse can be made by adding one-half teaspoon of baking soda and one-fourth teaspoon of salt to 1 quart of water; other nonalcoholic rinses, such as aqueous chlorhexidine gluconate 0.12%, can be used according to the needs of the patient; LOE = 0); b) should counsel HNC survivors to consume a low-sucrose diet and to avoid caffeine, spicy and highly acidic foods, and tobacco (LOE = 0); and c) should encourage HNC survivors to avoid dehydration by drinking fluoridated tap water, but explain that consumption of water will not eliminate xerostomia (LOE = 0).

Clinical interpretation. One major issue affecting most HNC survivors treated with RT is xerostomia¹²⁰ because of reduction in salivary flow.¹¹⁴ Most patients treated for nasopharyngeal, oral cavity, oropharyngeal, and hypopharyngeal tumors will be at risk for xerostomia. While some salivary gland tissue can be spared with newer techniques, dry mouth complications should still be expected. The direct

effect of ionizing radiation on the salivary glands may be transient or permanent¹¹⁵ and depends upon a variety of factors, including location of the primary tumor; the total amount of radiation received by the salivary glands; any other oncology treatments (eg, chemotherapy); comorbidities, such as autoimmune diseases; and those medical issues controlled by xerostomia-inducing medications, such as anticholinergics, antihypertensives, antihistamines, neurology and nervous system drugs, and decongestants. Patients who experience surgical ablation of the salivary glands or associated ducts will most often present with a lifetime of salivary hypofunction.¹¹¹ In addition to its negative impact on QoL, xerostomia can also have catastrophic effects on the dental and oral health and, subsequently, on the patient's general health.

Saliva, in its appropriate composition, offers many necessary protective benefits to dentition and oral homeostasis.¹¹¹ Salivary changes, whether resulting in dry mouth or thick, ropery saliva, compromise these protective features and can result in increased incidence of dental caries, sensitivity of nondecayed teeth, attrition and erosion of the dentition, mucosal injury, dysgeusia and hypogeusia, inability to wear dental prostheses, and increased incidence of oral infection. Primary care clinicians should not consider the presence of some saliva as resolution of the dry mouth issue and should refer patients complaining of thick or ropery saliva to a dental specialist trained to manage such conditions.¹¹² Patients with decreased salivary flow are at risk for rapid development of dental caries, many of which cannot be easily detected upon simple visual inspection of the oral cavity until the condition is advanced.

Xerostomia can create great difficulty in wearing dentures or dental appliances. Xerostomia increases the likelihood of mucosal injury from loss of proper dental occlusion or even rough foods.

Because xerostomia-induced dental caries are among the most common oral health issues observed in HNC survivors, primary care clinicians should rely upon the skills of a dental professional to procure and review dental radiographs, to properly assess the presence or risk for such dental caries to potentially avoid costly restorations, and to assess the possibility of tooth loss and its associated risks in this population.¹¹² Late-stage dental caries can quickly advance to a dental infection or abscess and become a systemic health risk if not adequately and properly treated. Dental pain may be a late symptom; therefore, patients should be educated about subtle dental signs or symptoms, such as a strange taste or gum swelling.

Medications such as pilocarpine and cevimeline have shown promise in improving oral hydration and salivary flow in patients with xerostomia caused by graft-versus-host