

by Lauren Levi, DMD



Trained in dental oncology, **Lauren Levi, DMD**, has extensive experience treating patients who face individualized dental needs after receiving chemotherapy, radiation therapy or stem-cell transplants. After receiving her doctorate from the University of Florida College of Dentistry, Levi completed a general practice

residency program at New York Presbyterian-Weill Cornell Medical Center, and then a fellowship in dental oncology. She has expertise in assessing and managing the oral manifestations of head and neck surgery, osteonecrosis and osteoradionecrosis of the jaw. Other areas of focus include managing patients with solid and liquid tumors and treating other nonmalignant oral pathological conditions. Levi is an instructor at Icahn School of Medicine at Mount Sinai, New York City.

Rehabilitation After Oral Cancer:

Patient Treatment Considerations

Oral cancer is a devastating disease that can affect anyone and is increasing in prevalence.

Unfortunately, although cancer treatments like chemotherapy, radiation treatment and head and neck surgery save many lives, they are often associated with several sequelae that may pose unique obstacles for the dental practitioner.

This article will review the oral sequelae associated with head and neck radiation therapy, as well as treatment considerations for patients who have undergone oral-cancer therapy regimens.

FIGHTING DRY MOUTH

Xerostomia, or “dry mouth,” is the subjective sensation of dryness experienced when not enough saliva is being produced. A chronic condition, it can be compounded in oral cancer patients if chemotherapy or radiation damage or destroy the salivary glands. While dry mouth can sometimes disappear a few months after cancer treatments have concluded, without proper treatment it can have a detrimental effect on overall oral health. Below are three steps patients can take to counter xerostomia associated with the side effects of cancer treatments.

- **Increase water intake.** Frequently sipping water or sucking on ice chips can stimulate salivary flow and provide temporary relief for many symptoms associated with dry mouth.

- **Brushing and flossing.** Regularly brushing and flossing can help allay dry mouth. Some dry mouth sufferers report that mint-flavored toothpastes are more effective than other flavors in helping relieve those symptoms.

- **Over-the-counter remedies.** Many over-the-counter products such as lozenges or sprays contain oral lubricants that coat and soothe the mouth. (A March 2016 Clinicians Report study reported that the most effective remedy for combating dry mouth—specifically at night, when xerostomia is most prevalent—was OraCoat XyliMelts discs, which use a controlled release of xylitol to stimulate saliva.

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Because saliva acts as a natural buffer in the mouth, bathing and lubricating the teeth and oral tissues, reduced salivary flow leaves patients prone to an increased risk for dental decay.

Xerostomia

One of the most common manifestations of radiation therapy to the head and neck, xerostomia, may pose a significant challenge to restorative dentists.

Radiation therapy to the head and neck region may result in not only a reduction in salivary flow, but also a change in the type of saliva produced. Often, patients who have undergone high-dose head and neck radiation therapy report noticing that their saliva is ropey and thick, which means many of saliva's protective effects are no longer present.

The extent of hyposalivation and xerostomia is linked to the dosage of received radiation, as well as the location of the field of radiation. Because saliva acts as a natural buffer in the mouth, bathing and lubricating the teeth and oral tissues, reduced salivary flow leaves patients prone to an increased risk for dental decay. (Xerostomia also is associated with taste alterations, difficulty swallowing and difficulty speaking.)

Treatment considerations: Treating xerostomic patients can be a challenge because they're at an increased risk for developing caries. It's often recommended that these patients be placed on a sodium fluoride 1.1 percent prescription-strength toothpaste.

Also, oral-hygiene instruction is paramount, and a detailed discussion of the risks of developing caries in the setting of reduced salivary flow is crucial.

Trismus

Often presenting three to six months after radiation therapy, trismus signifies a limited or reduced opening of the jaw. The degree of trismus varies, depending on the location and dosage of radiation, as well as the patient's age and medical history.

Trismus may also result from surgical resections. Trismus can be extremely debilitating if it results in not only an impaired ability to maintain oral hygiene, but also a difficulty in chewing food.

Treatment considerations: Performing restorative dental treatment on patients suffering from trismus can be extremely difficult and may present several problems to patients, including impaired ability to maintain oral hygiene and difficulty eating and speaking.

Ideally, jaw exercises that encourage maintaining the vertical dimension of opening should be reviewed with patients before they undergo treatment. Referrals to physical therapists and speech pathologists are often recommended to help prevent patients from developing trismus. At-home jaw exercises should be reviewed with patients and encouraged, in addition to therapy with a speech pathologist and a physical therapist.

In addition to considering the manifestations of head and neck radiation therapy, dental clinicians must also consider any defects that may have resulted from head or neck surgery.

Maxillary defects and palatal obturators

Depending on the location of the tumor, maxillectomies are sometimes indicated.

These surgical procedures may involve total or partial surgical resection of the maxilla. Palatal obturators are often fabricated to restore speech, to enhance a patient's ability to eat, and to restore the boundaries between the nasal and oral cavity. Additionally, obturators replace missing teeth.

Treatment considerations: A thorough dental evaluation should be conducted before the surgery. This evaluation should include a detailed discussion about: active dental or periodontal infections, oral-hygiene instruction, the side effects associated with the proposed cancer treatment, and compliance with frequent follow-up visits. Active communication and coordination with the patient's head and neck surgeon and oncology team must be established.

Pretreatment prophylaxis and treatment of active odontogenic and periodontal infections should be completed before the patient undergoes any cancer therapy.

At the presurgical visit, initial impressions of the maxilla and mandible should be taken for fabrication of a surgical obturator. Because surgical obturators are placed at the time of surgery, their fabrication should be discussed with the head and neck team.

Approximately two weeks after surgery, surgical dressings are removed and an interim obturator is fabricated while the patient is



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healing. The obturator is constantly modified and relined throughout the healing process. Finally, after the defect has healed and remodeled, a definitive obturator is fabricated and delivered.

Overall treatment considerations

Treating patients with a history of cancer is multidisciplinary, and the dentist is a crucial member of the oncology team. Frequent recall visits are important, and a detailed discussion of

the oral and dental sequelae associated with oncology regimens is essential.

References

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Performing an oral cancer evaluation is easy, quick and invaluable to delivering comprehensive care to a dental patient. By performing an oral cancer examination, you could save a patient's life.

When performing oral cancer evaluations, it's important to evaluate the soft tissues of the buccal and labial mucosa, vestibules, gingiva, floor of the mouth, hard and soft palate, tongue and oropharynx. Patients should be informed that any lesions that do not resolve after two weeks should be biopsied. Extraorally, palpate for masses and lymphadenopathy.

Don't forget to observe the skin of the patient's scalp, ears, neck and face. Check for the "ABCDs": asymmetry, border irregularity, color inconsistency, and diameter size greater than a pencil eraser (6 millimeters).

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