Dear Doctor,

Your patient______________________________ has been diagnosed with head and neck cancer. Their treatment will most likely involve a combination of surgery, radiation and chemotherapy. It is essential that he/she receive a comprehensive oral evaluation including a full mouth series of radiographs, a panoramic radiograph, and a complete hard and soft tissue examination before treatment begins. This way, preventive and therapeutic measures can be completed prior to the start of their cancer therapy. The following information will be of value to you in managing your patient before, during, and after cancer therapy.

**IMPACT OF CANCER THERAPY ON THE ORAL CAVITY**

Radiation therapy to the head and neck can cause irreversible damage to the salivary glands. This results in many changes to the saliva, including hyperviscosity, decreased pH, and decreased output. These changes put the patient at high risk for developing rampant dental caries, as well as recurrent oral candidiasis and generalized oral discomfort.

Mandibular bone healing after extractions may be impaired as radiation therapy causes the bone to become hypovascular. For this reason, it is highly recommended that non-restorable teeth, teeth with moderate to severe periodontal involvement, and teeth with questionable long-term prognosis be extracted prior to initiation of radiation therapy. Pre-radiation extractions should be completed two weeks before therapy starts.

Following completion of radiation therapy, it is essential that all patients maintain excellent oral hygiene, use a home fluoride treatment daily, and return to their dentist twice a year for cleanings and radiographs.

Chemotherapy (especially in combination with radiation therapy) places the patient at high risk for developing oral mucositis, and in some cases, myelosuppression. Mucositis, while impossible to prevent, may be exacerbated by pre-existing dental disease. If a patient becomes myelosuppressed, chronic dental infections may become acute, and in severe cases, may lead to sepsis. This is another reason why elimination of existing and/or potential sites of infection is critical.

Surgical management of intraoral tumors may lead to certain complications as well. Depending on the location of the surgery and radiation, scarring and fibrosis can lead to limited opening and/or mobility making oral hygiene maintenance a challenge. Some patients may develop chronic neuropathic pain, and this must be identified and not confused with dental pain.

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PREVENTION OF DENTAL PROBLEMS PRIOR TO TREATMENT

Pretreatment dental intervention and management is necessary to minimize and/or prevent oral complications in the head and neck cancer patient. A dental cleaning, necessary extractions, restorative procedures, and fluoride therapy must be instituted before the start of their therapy. Outlined below is the protocol recommended at the Dana-Farber Cancer Institute to meet the oral and dental health needs of patients being treated for head and neck cancer. Please note that if your patient has a portacath, they will need antibiotic prophylaxis prior to any procedures that may cause significant bleeding.

Prior to Radiation Therapy

1. Comprehensive examination including full mouth series and panoramic radiographs.
2. Dental prophylaxis
3. Restorative dentistry
4. Extraction of non-restorable teeth or teeth with poor prognosis, ideally two weeks before the start of radiation therapy.
5. Fabrication of soft custom fluoride trays and Prevident™ prescription.
6. Reinforce oral hygiene regimen:
   - Brush and floss three times daily
   - Apply fluoride in trays for 5 minutes twice daily.

During Radiation Therapy

1. Continue oral hygiene regimen and fluoride treatments.
2. Palliative treatment of oral mucositis (analgesics, viscous lidocaine).
3. Palliative treatment of xerostomia (Biotene™ rinse/gel, sugarfree candy, water).
4. Immediate treatment of acute dental emergencies.

After Radiation Therapy and Cancer Therapy is Complete

1. Dental visits twice annually with annual bitewing radiographs.
2. Continue oral hygiene regimen and fluoride therapy.
3. Regular restorative treatment as needed.
4. Treatment of dry mouth with frequent water intake, sugarfree candy, Biotene™ products, and possible use of sialogogue therapy with Salagen™ or Evoxac™.

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