



### **What you need to know about head and neck chemo- and/or radiation-therapy and the mouth**

Your clinical team has recommended a combination of radiation-therapy and chemo-therapy, or radiation-therapy only, to treat your head and neck cancer. Chemo-therapy and radiation-therapy for head and neck cancer may have short and long-term side effects in the mouth. This sheet provides general information about the prevention and management of oral side effects that can arise before, during, and after completion of chemo-radiation therapy or radiation-therapy only. While this sheet provides an overview, please be sure to discuss any questions or concerns about your oral health with your care team.

#### ***What are the most common side effects of chemo-therapy and radiation-therapy on the mouth?***

##### *Oral mucositis*

Oral mucositis is a condition characterized by redness and sores of the mouth and throat that can be painful. Oral mucositis typically develops within 2-3 weeks after the start of chemo- and/or radiation-therapy and may last for up to three months before healing. Oral mucositis is not an infection or contagious and you cannot spread it to family or friends. Optimizing your dental health prior to your cancer treatment can help to reduce the risk of oral mucositis. Management of mucositis is determined by the extent of discomfort. For more detailed information, please refer to the Oral Mucositis information sheet. (We can insert the website hyperlink)

##### *Xerostomia (Dry Mouth)*

Xerostomia is the sensation of having a dry mouth. Dry mouth occurs due to the effects of the chemo- and/or radiation-therapy on the salivary glands. Dry mouth symptoms can begin soon after starting chemo- and/or radiation-therapy, and while dry mouth typically does improve over the course of a year, long-term symptoms are common. It is important to stay well-hydrated by drinking 6-8 cups of water daily. Many patients note symptomatic relief using over the counter medications such as Oral Balance gel<sup>TM</sup> and Dry Mouth Oral Rinse<sup>TM</sup> (Biotene<sup>®</sup> GlaxoSmithKline, Brentford, UK) or tablets that melt in the mouth such as Oramoist<sup>TM</sup> (Dentek oral care, WayMaryville, TN) or Xylimelts<sup>TM</sup> (OraCoat, Orahealth

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Corporation, Bellevue, WA). These dry mouth products are available without a prescription. Saliva not only lubricates the mouth but also helps to fight infections, so a reduction in the amount of saliva increases the risk of tooth decay and recurrent yeast infections in the mouth. For more detailed information, please refer to the xerostomia (Dry Mouth) information sheet.

(<https://www.brighamandwomens.org/surgery/oral-medicine-and-dentistry/pdfs/dry-mouth-bwh.pdf>)

## *Osteoradionecrosis of the jaw*

Osteoradionecrosis of the jaw (ORN) is a condition that can happen after your cancer treatment in which part of the jaw bone becomes damaged (necrotic). This happens as a result of reduced blood flow to the jaw bones and poor healing capacity following radiation therapy. Most cases of ORN develop following a dental extraction, but some cases can also develop without a clear preceding event. For this reason, it is important to identify teeth requiring extraction *prior* to chemo-radiation therapy, and then to maintain the health of your teeth as best as possible after completing therapy. If ORN develops, management typically involves antibiotics and localized removal of necrotic bone. For more detailed information, please refer to the Osteoradionecrosis of the Jaw information sheet. (We can insert the website hyperlink)

## *Limited mouth opening*

Limited mouth opening, or “trismus”, can develop as a result of surgery, radiation-therapy or a combination of both due to the development of fibrosis, or scar tissue. Limited mouth opening can make it difficult to eat and to maintain oral hygiene. Physical therapy exercises during and after radiation treatment may be helpful in managing this complication and improving mouth opening and function. During your radiation therapy you will meet with a Speech Language Therapist who will give you exercises to maintain or improve your mouth opening and limit the risk of trismus.



### **Mouth care guidelines for patients receiving chemo- and/or radiation-therapy**

#### ***How should I care for my mouth care DURING cancer treatment?***

The goals of mouth care during cancer therapy are to keep the mouth clean and comfortable and to reduce the risk of developing infection:

1. Brush your teeth at least twice a day with a soft toothbrush and toothpaste. If your normal toothpaste burns your mouth, use a children's toothpaste.
2. Rinse your mouth with salt water and baking soda up to 6 times during the day
3. Clean removable dentures worn during treatment daily with water and an old toothbrush. You can also soak your dentures using commercial over the counter denture cleaning products. If your clinical team diagnoses you with thrush (a yeast infection) then it is very important to soak your dental appliance in a weak diluted bleach (1:10 dilution in water) if it is an all acrylic denture. If your denture contains metal, then soak it in chlorhexidine mouth rinse (you will have to ask your team to provide you with a prescription).
4. Your dentist or medical team will give you a prescription for sodium fluoride 1.1% gel or toothpaste, stannous fluoride 0.4% gel to apply to your teeth daily using one of the following techniques:
  - a. Brush on teeth using a toothbrush twice a day. Leave it on your teeth for 1 minute, then spit out. Don't rinse, eat or drink for 30 minutes afterward. Fluoride application should be completed after brushing your teeth with a regular tooth paste.
  - b. **OR** if you have a fluoride-applicator tray, use it daily. Line the tray with prescribed fluoride gel and leave it on your teeth for 3 minutes. Don't eat or drink for 30 minutes afterward
5. Floss your teeth daily to prevent buildup of plaque and debris in your teeth that can lead to gum inflammation and cavities.
6. Rinse with a solution of baking soda and salt (1 teaspoon of baking soda, 1 teaspoon of salt in quart of water) frequently throughout the day and after meals.



### ***How should I care for my mouth care AFTER completion of cancer treatment?***

Chronic dry mouth following chemo- and/or radiation-therapy for head and neck cancer increases the risk of developing dental cavities. To reduce this risk, it is very important to maintain good oral hygiene and to apply topical fluoride to the teeth for the rest of your life.

1. Brush your teeth at least twice a day, and whenever possible after meals. You should use a soft toothbrush and toothpaste. If your normal toothpaste burns your mouth, use a children's toothpaste.
2. Floss your teeth daily.
3. Apply fluoride to your teeth daily. In addition to the techniques described above, you should receive fluoride varnish application to your teeth in the dental office at least twice a year. You will likely continue to use the prescription fluoride gel for the rest of your life.
4. Visit your dentist at least twice a year for cleanings and routine examination, dental radiographs and fluoride varnish application.
5. Please inform your radiation oncologist if you require a dental extraction as this may increase the risk of developing osteoradionecrosis.
6. Performing jaw exercises daily may help prevent/limit mouth tightness or limited mouth opening.



### Frequently asked questions

***Does nightly fluoride need to be applied with a toothbrush AND in a custom tray?***

No, prescription fluoride gel should be applied nightly either by toothbrush (and left for 3 minute, then spit out) or in a custom tray (line the tray with prescribed fluoride gel and leave it on your teeth for 3 minutes).

***Can I eat and/or drink after applying fluoride to my teeth?***

Please wait at least 30 minutes after using the fluoride application before you eat and/or drink.

***Does the fluoride gel replace brushing my teeth with regular toothpaste?***

No. You need to brush your teeth with regular toothpaste. After brushing, you can either apply the fluoride gel with your toothbrush or in a custom tray.

***How long should I use fluoride after I complete my cancer therapy?***

In most cases the need for fluoride is lifelong following completion of head and neck chemo-radiation therapy.

***When can I visit my dentist after completing my cancer therapy?***

As soon as you are comfortable and physically able, you can return to your dentist for routine check up and treatment if needed.

***After completing cancer therapy, how many dental visits should I have each year?***

This depends on the health of your teeth present. While most patients should see the dentist twice a year, some may require more frequent visits due to a higher rate of cavities.

***What should I do if my dentist informs me that I need a tooth extracted?***

You should first consult with your radiation oncologist before proceeding with any dental extractions. In general, extraction of teeth after radiation treatment should be avoided as much as possible to decrease the risk of osteoradionecrosis of the jaw (ORN). However, specific precautions may be taken if you need to have a tooth extracted.

***Can I have dental implants placed after completion of chemo- and/or radiation-therapy?***

While dental implants have been safely placed in some patients following head and neck chemo- and/or radiation-therapy, there are some associated risks. These include implant failure, and development of osteoradionecrosis of the jaw (ORN). The risk of complications increases if the implants are placed into

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bone that received a higher dose of radiation. Please be sure to discuss any questions or concerns about dental implants with your care team.

***If I have one or more existing dental implants, is there anything I need to worry about?***

There are no specific precautions for patients with dental implants. In general, you have to keep dental implants clean as much as possible with brushing and flossing. If you develop any issue (for example: pain, bleeding) with your dental implant, you should consult with your dentist and check with your medical team.