

## Mouth Care for Radiation Treatment of the Head and Neck

Mouth care is vital for patients receiving radiation therapy to the head and neck area. This therapy can cause temporary and permanent mouth changes. As a result, it is important to be aware of side effects and learn how to treat them. Mouth care will help you have fewer side effects and lower the risk of serious health problems.

**Do not** have gum surgery or teeth removed if areas of your mouth have been treated with radiation. Surgery to a jawbone that has been treated with radiation may create severe problems with healing. This includes serious infections or bone death due to radiation (osteoradionecrosis).

### Temporary Changes

#### Soreness

Most temporary changes in the mouth get better within a few weeks after radiation is completed, but some may take longer. These changes may cause pain or make it hard for you to eat, swallow or talk.

**These changes may include:**

- Mouth or throat soreness
- Painful gums or tongue
- Mouth and throat sores (ulcers), which may also increase your risk of infection

#### Taste Changes

You may also experience taste changes. Some foods may start to taste bitter, metallic or have no taste at all. Most taste changes improve over time.

### Permanent Changes

#### Dry Mouth

Radiation therapy leads to a decrease in the amount of saliva or spit that the major salivary glands produce. Saliva helps to protect the teeth and removes bacteria from the mouth. This change can cause teeth to become very sensitive and may cause decay (cavities) to occur.

#### Jawbone Changes

Radiation treatment to the lower face area affects blood circulation in your jawbone. This can prevent or slow your ability to heal sores or wounds. Always tell your dentist about your prior radiation therapy before having any dental work done.

## Meet With Your Dentist

### Before Radiation

It is important to prevent or reduce problems by having your teeth cleaned before you begin radiation therapy.

### After Radiation

To prevent infection in the gum tissues, it is important that you have your teeth cleaned within 6 months after radiation therapy is completed, followed by every six months on a regular schedule (as recommended by the American Dental Association).

Before having any dental work, always tell your dentist that you have had radiation therapy. You may have your cavities filled, and crowns or simple root canals done after the temporary side effects of radiation have subsided. If needed, you may have dental x-rays and local anesthesia since these do not affect the jawbone.

## Practice Daily Mouth Care

Daily mouth care should be practiced for the rest of your life. Follow these steps for good daily mouth care.

1. Wash your hands before you do any mouth care.
2. Floss your teeth carefully before you brush them.
  - If you floss daily, use **waxed** dental floss. Flossing may be difficult if mouth sores develop. If this happens, talk with your dentist before you stop this important step. If flossing is not already part of your mouth care routine, talk with your dentist about how to start and floss the correct way.
3. Brush your teeth, gums and tongue after each meal and before bedtime with a soft bristled toothbrush (e.g., Butler Gum® sensitive bristled, Colgate® sensitive bristled or Biotene® soft toothbrush).
  - Bristles on soft or sensitive toothbrushes are softer, so your brushing motion must be slow to allow the bristles to flow along the gum line and clean off the food and plaque buildup. Use regular fluoride toothpaste without tartar control. If you cannot brush your teeth after meals, rinse your mouth with water.
4. After brushing your teeth, rinse your mouth with a baking soda solution.
  - **Do not** use any store-bought mouthwash product as it may contain alcohol or phenol that may irritate your mouth.
  - Each day, make your own baking soda solution by mixing 1 teaspoon of baking soda with 12 to 14 ounces of water (use a 16-ounce “sports” water bottle). Swish 1 to 2 ounces of the baking soda solution in your mouth for 30 seconds and then spit it out. You may also gargle with the rinse for several seconds before spitting it out.
  - Rinse every 2 or 3 hours while you are awake, especially after meals and at bedtime. Do not rinse with the baking soda more than 6 times a day.
5. Apply fluoride once a day to your teeth. It is best to do it at bedtime.
  - You can buy fluoride gel (stannous fluoride 0.4% products like Gel-Kam® or Omnii Gel™) at your local pharmacy without a prescription. Do not use fluoride flavors like cinnamon, as it may burn your mouth.

## Apply Fluoride

**Using fluoride trays are the best way to apply fluoride to your teeth.**

1. Apply a thin layer (1/3 of the depth of the tray) of fluoride in the tray, and then place the trays over your teeth for 10 minutes. Spit out any excess saliva or fluoride during the 10 minutes. **Do not** swallow any of the fluoride or saliva mixed with the fluoride.
2. Remove the trays and spit out any remaining fluoride from your mouth.
3. Rinse the trays in cool water and clean all the remaining fluoride gel from the inside of the trays with your toothbrush.
4. Store trays in a cool, well-ventilated place.
5. **Do not** rinse your mouth, eat or drink for 30 minutes after you apply the fluoride.

**Your dentist may suggest a fluoride treatment that you brush on. If so:**

1. Keep a second soft-bristled toothbrush to use only with the fluoride treatment.
2. Read the fluoride directions and apply the stated amount to your toothbrush.
3. Apply the fluoride so that it covers all the surfaces of your teeth. Keep the fluoride on your teeth for 10 minutes.
4. After 10 minutes, spit out the remaining fluoride. **Do not** rinse your mouth, eat or drink for 30 minutes after using the fluoride.

## Use Caution With Dentures, Partials and Removable Prosthesis

Be careful when you insert or remove dentures, partials or removable prosthesis. Always remove your dentures during radiation treatment. If your dentures, partials or removable prosthesis fit poorly, you may want to leave them out completely during radiation. They may injure your gum tissue and possibly interfere with your treatment due to ulcers. Tell your dentist if you have any problems.

At bedtime, soak your dentures, partials and removable prosthesis in an over-the-counter denture cleaning solution. Soak and clean them well with water before you place them in your mouth.

## Keep Your Mouth and Lips Moist

Your lips and the inside of your mouth may become dry because of fever, medicines or changes related to radiation treatment.

**To help keep your mouth moist during radiation treatment:**

- Rinse your mouth with a baking soda solution after meals and at bedtime. Do not rinse with baking soda more than 6 times a day. See **Mouth Care** section for solution instructions.
- Drink at least 8 to 12 (8 oz.) glasses (2 to 3 liters) of non-alcoholic, non-acidic, non-caffeinated fluids each day, such as water or flavored non-carbonated beverages, unless your doctor has instructed otherwise.
- Suck (do not chew) on ice chips or popsicles. You can also chew sugarless gum. **Do not** use mints or hard candies.

- Use a lubricant such as aloe or lanolin on your lips. You can also use unflavored lip balm or moisturizer.
- Tell your doctor or nurse if your mouth or lips continue to feel dry.

## **Eating and Drinking During Radiation Treatment**

It is important to eat a soft diet during treatment. Eat and drink items that do not irritate your mouth, especially during the last weeks of treatment. Eat only those things that feel good in your mouth to help prevent soreness.

### **Eat or drink:**

- Foods that are soft, liquid, blended or moist such as broth, gelatin, puddings, milkshakes, cooked cereals and frozen juice bars
- Foods that are cold or lukewarm in temperature
- Smaller bites of food
- At least 8 to 12 (8 oz.) glasses (2 to 3 liters) of non-alcoholic, non-caffeinated fluids each day like non-acidic juices or sports drinks

Be sure to chew slowly and sip liquids with your meals.

### **Do not eat or drink:**

- Crunchy, hard foods such as chips, popcorn, granola bars
- Hot foods or liquids, or spicy food items
- Food items that are acidic, salty, highly seasoned, or irritating

## **Managing Side Effects**

### **Mouth Sores (Ulcers)**

Tell your doctor or nurse if you notice mouth sores, bleeding white patches in your mouth, or a white coating on your tongue. If the sores are painful or keep you from being able to eat, ask your doctor about pain relief products that may help lessen the discomfort. If the ulcers become severe, you may need to eat finely ground or pureed foods or use liquid nutrition supplement shakes.

### **If You Develop a Sore Mouth**

Below are some things you can do to help your mouth feel better if your mouth becomes too sore to brush your teeth:

- Drink plenty of water between meals.
- Use a soft-bristled toothbrush when brushing. If your toothpaste burns, use baking soda.
- Rinse your mouth with either a prescription mouthwash or with the baking soda solution. Use the baking soda rinse every 2 or 3 hours while awake, such as after meals and at bedtime. Do not rinse with the baking soda more than six times a day.
- Tell your doctor or nurse if you continue to have mouth soreness.