

## **Mouth care for cancer patients**

- Patients who are receiving cancer therapy often have changes in the mouth. This information can help you understand possible side effects of cancer treatment, including tips for mouth care that may help prevent or minimize these changes.

### **Introduction to mouth care**

Chemotherapy affects rapidly dividing cells. Cancer cells and some normal cells, such as those lining the mouth, the gastrointestinal tract, bone marrow cells, and hair cells, divide rapidly.

Chemotherapy cannot tell the difference between normal cells and malignant cells and sometimes injures both. Chemotherapy may lower your white blood cell count, platelet count, and red blood cell count. This is known as bone marrow suppression (another name is myelosuppression). This makes you more at risk for infection and/or bleeding.

If there is pre-existing dental infection such as cavities, abscesses, or gum (periodontal) disease, the infection may become worse. In addition, your gums may bleed easily if they are irritated or swollen.

Chemotherapy may also cause mouth sores (mucositis). These sores usually heal in one to two weeks; however, more serious ulcers may become infected with bacteria or yeast that are commonly found in the mouth. Irritation from sharp teeth or fillings may worsen the condition. Medications to prevent sores and help with discomfort are available and can be prescribed for you.

As a comfort, ask for ice chips or sugar free popsicles to suck on while you are receiving chemotherapy. Research has shown this may decrease mouth sores by 60 percent.

### **If you receive radiation therapy to your head or neck:**

Radiation therapy is often used to treat individuals with cancer of the head and neck. It is delivered to the head and neck area to destroy cancer cells but unfortunately, some normal cells are injured as well. During radiation treatment, patients may also experience mouth sores. This usually lessens within a couple of weeks after therapy ends. Unlike chemotherapy, radiation therapy has long-term side effects in the mouth. The most common side effect is dry mouth (xerostomia). Xerostomia is a result of radiation injury to the salivary glands. It means the salivary glands produce less saliva and the saliva is thicker. The normal protective effect of saliva on the teeth is lost and there is an increase in oral bacteria that cause cavities. Also, plaque and tartar deposits occur faster, which places you more at risk for cavities and gum disease.

Another side effect of radiation treatment to the head and neck is severe bone infection. This is caused by a decrease in the blood supply to the bones of the head and tissue of the neck during radiation treatment. These changes result in slow healing from infection, trauma or especially

when teeth are removed soon after radiation therapy. Restorative and preventive dental care is very important to avoid infection.

To prevent infection and tooth decay, it is very important to see your dentist early in your treatment and to continue good mouth cleaning daily. Outlined below are helpful suggestions for mouth care inpatients undergoing cancer treatment.

### **Before treatment with chemotherapy or head and neck radiation**

See your dentist so that (s)he may identify potential sources of dental infection or irritation. Teeth with severe infection or those that may cause problems during or after therapy should be removed (extracted). Extractions should be done at least one week before the start of chemotherapy or radiation therapy to provide enough time for proper healing. Teeth with cavities should be restored with fillings. A thorough cleaning and scaling of teeth should be done to remove tartar (calculus). All sharp areas should be smoothed to prevent unnecessary irritation. Procedures that may be included in the first dental visit are:

- Dental examination and x-rays
- Dental cleaning
- Impressions for fluoride trays. Fluoride trays are custom-fitted soft plastic trays that are used to apply fluoride. Fluoride is used to help prevent the formation of cavities.
- Oral hygiene instructions:
  - brush three times a day with a soft toothbrush
  - floss daily
  - apply fluoride gel to teeth with custom tray twice daily
  - eat a nutritionally balanced diet, low in sugar

### **During treatment with chemotherapy or head and neck radiation**

During treatment it is important to adhere strictly to your mouth care plan. If your mouth is sore, some of the following tips may help:

- Use a soft toothbrush or a sponge applicator such as a toothette to brush your teeth.
- Don't floss if it causes bleeding when your platelet count is low.
- Wear dentures only for meals.

- Rinse your mouth with warm salt water or baking soda and water (a teaspoon of either dissolved in eight ounces of warm water).
- Avoid commercial mouthwashes because they contain alcohol that may burn your mouth.
- If your doctor prescribes both an antibacterial rinse (Peridex) and an antifungal rinse or lozenge (nystatin), do not take them together because they will not work as well. Separate them by at least one hour.
- To prevent discomfort when eating, you may apply Viscous Xylocaine to your mouth, especially before meals. Viscous Xylocaine can be swished and spit out or it can be applied directly to a specific area with a cotton tipped applicator. Other topical anesthetics are available at your pharmacy. Ask your doctor or nurse about specific products.
- Pain medicine may also be used. Tylenol or stronger pain medication may help reduce oral pain. If taken half an hour before meals it may be more comfortable to eat. It is important to avoid using aspirin or non-steroidal medication (Advil, Motrin) products while on chemotherapy since they may cause bleeding problems.
- Do not smoke cigarettes, cigars, pipes, or chew tobacco and avoid drinking alcohol. These are all very irritating and drying to a sore mouth.
- Avoid spicy food and food that is difficult to chew. Citrus and tomato juice may irritate your mouth when you have mouth sores.
- Dry mouth (xerostomia) can be helped by drinking plenty of fluids throughout the day.
- Drink at least eight glasses of water or juices daily.
- Avoid caffeinated beverages as the caffeine may increase mouth dryness.
- Artificial saliva can be tried and is available in most pharmacies. You may find that chewing sugarless gum or sucking on sugarless candy is helpful. Coating your lips with a lip balm such as Vaseline or Chapstick will help prevent them from cracking. A cool mist humidifier will add moisture to your room.

**Fluoride treatments** are important during and after radiation treatments to the head and neck area. They should be done twice daily by using soft trays that are custom made for you by your dentist.

**Fluoride treatment is performed as follows:**

- Brush your teeth with a fluoride toothpaste
- Place approximately four drops of fluoride gel into the tooth depressions in the plastic tray and spread it with a cotton swab. Gel-Kam is a common fluoride gel. If Gel-Kam irritates your teeth or gums you may find that Prevident is less irritating.
- Place trays in your mouth and keep them in for a full five minutes. Try not to swallow any fluoride. Remove trays and do not rinse your mouth or take any food or drink for one hour.
- Rinse the tray. Repeat this routine twice a day.

**It is important to call your doctor:**

- If your mouth pain increases and you are unable to control it with your pain medicine.
- If you are unable to eat or drink because of severe mouth sores.
- If you have a fever.
- If you have bleeding that is difficult to control.
- If you have any difficulty swallowing.

**After treatment with chemotherapy or head and neck radiation**

When therapy ends, you need to continue with good dental care in order to keep your teeth and gums healthy. Your salivary glands will be making less saliva and you will still be at risk for developing cavities and gum disease.

You will need to have:

- Dental visits with scaling and cleaning at least three times a year.
- Continued fluoride treatments with fluoride trays twice a day.
- A nutritionally balanced diet, low in sugar.
- If any dental extraction becomes necessary it is important that your dentist talk with your oncology team who are familiar with your treatment.

Mouth dryness may continue after therapy. Salivary flow will gradually increase, but may not completely return to normal. To add moisture to your mouth it is helpful to:

- Carry a water bottle to wet your mouth as needed.
- Drink at least eight glasses of water or juices per day.

- Keep caffeine at a minimum.
- Avoid alcohol and tobacco products.
- Moisten foods with gravies or sauces.
- Chew sugar free gum or suck on sugar free sour drops.
- Try artificial saliva.
- Ask your physician, dentist or nurse to recommend commercial products that are available for dry mouth.
- Use a cool mist vaporizer.

Dentures should be made or relined about six months after treatment to allow for changes in your mouth. There should be no pressure areas which could result in irritation to your mouth.

- Taste changes during the first six months following radiation therapy are common. You may find a decrease in taste and an altered taste sensation. These changes may result in a decrease in appetite. It may help to:
  - Try different foods, if they are not agreeable, you can try again at another time.
  - Add various herbs and mild spices.
  - Avoid adding extra salt if you have high blood pressure.
  - Add liquid food supplements to increase caloric intake until your appetite returns. Ask your nurse or see one of our dietitians for more suggestions.
  - Weigh yourself frequently until weight stabilizes.