Good mouth care is important for everyone. It’s even more important during and after cancer treatment.

For patients who are getting chemotherapy, radiation therapy or both, there are things that you can do to take care of your mouth and reduce your side effects.

Patients who are getting treatment to their head and neck area are more likely to experience side effects in their mouth.

Look for this symbol for special mouth care instructions for people who have had treatment for head and neck cancer.

In this booklet, you will learn:

• Who is at risk for mouth side effects
• How mouth side effects can affect you
• Why mouth care is important
• How to do good mouth care
• What to do if you develop mouth side effects
• How to keep your mouth healthy after treatment is complete
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Who is at Risk for Mouth Side Effects?

Since cancer cells tend to grow at a fast rate, many cancer treatments target these fast growing cells.

Some of your normal cells also grow at a fast rate, like your skin, hair, and the inside of your mouth and throat.

What are mouth side effects?

- Dry mouth and lips
- Thick mucus and saliva
- Soreness in the mouth and throat
- Small sores (ulcers) in the lining of the mouth or throat (also called mucositis)
- Taste changes
- Cavities

High risk factors for mouth side effects are if you:

- Smoke
- Drink alcohol
- Have low white blood cells
- Are having chemotherapy
- Are having radiation treatment to your head and neck area

How Mouth Side Effects can Affect You

If you develop a sore mouth or throat from treatment, eating and drinking can become difficult. If you develop thick mucus or secretions, this could make you feel sick.

If you don't drink enough, you will become dehydrated. If you don't eat enough, you will lose weight. Severe weight loss or dehydration may cause delays or changes to your cancer treatment.
Why is Good Mouth Care Important?

Good mouth care will help keep your teeth, gums and mouth clean. A clean mouth is better at fighting infections, and can decrease side effects including cavities and mouth sores.

Rinsing your mouth can help keep your mouth clean by removing plaque buildup, food, and toothpaste. Rinsing also helps to keep your saliva thinner and your mouth moist.

How to do Good Mouth Care

What is good mouth care?

• Brushing 2 to 3 times a day with toothpaste
• Regular flossing (if you already floss)
• Rinsing your mouth regularly
• Using fluoride trays, if they were given to you for treatment
• If you have dentures, cleaning them at least once a day

Regular Dental Care and Cavity Prevention

Radiation and/or chemotherapy makes it very easy for your teeth to develop cavities. It is very important you keep your mouth as clean and healthy as possible. If you are having trouble with brushing or flossing, tell your dentist.
Brushing Your Teeth

When do I do it?

Try to brush your teeth and tongue 2 to 3 times a day with toothpaste. A good routine is to brush after every meal and before you go to sleep. If you can’t brush your teeth after a meal, try to rinse your mouth with a mouth rinse or even plain water.

What do I use?

| **Toothbrush and Oral Sponges** | A soft toothbrush with a small head. If your mouth is sore or has ulcers, use an ultrasoft toothbrush
If you have too much mouth pain to clean with a toothbrush, use an oral sponge with a mouthwash instead.
Rinse your brush under hot water to soften the bristles before using. | Examples are:
• Butler Gum Sensitive Care®
• Oral-B Pro-Health Gentle Clean®
• Oral sponge |

| **Toothpaste** | If the toothpaste causes you discomfort, brush with plain water.
If you have treatment to your head and neck, you will be given a prescription for a special toothpaste (like Prevident® or Clinpro 5000®). | Use your regular toothpaste
• Use warm water
• If prescribed, use your prescription toothpaste |
Do not use mouthwash that **contains alcohol**. It will make your mouth dry and can cause sores.

If your mouth is sore or has ulcers, rinse after you brush your teeth, and at least 2 to 3 times a day.

Carry your mouth rinse with you so that you can rinse your mouth more often.

Gargle and swish for 30 seconds and then spit out.

If you have ulcers, your doctor can prescribe you a mouth rinse. Follow the directions.

<table>
<thead>
<tr>
<th>Mouthwash</th>
<th>You can use:</th>
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</table>
| Do not use mouthwash that **contains alcohol**. It will make your mouth dry and can cause sores. | • Warm Water  
• Club soda  
• Baking soda and water: mix 1 Tbsp (tablespoon) of baking soda in 2 cups of water. Make a fresh mix every day.  
• Paroex (prescription)  
• Perichlor (prescription) |

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![Hand holding a glass of water](image)
| **Floss** | If you already floss your teeth regularly, you may continue to gently floss your teeth once a day. **Do not** floss if:  
* It causes you pain  
* Your gums bleed and the bleeding doesn’t stop after 2 minutes  
* You’ve been told that your platelets are low  
* Your cancer doctor tells you not to floss  
* You don’t already floss regularly | **You can use:**  
* Dental floss  
* Dental picks |
<table>
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<tbody>
<tr>
<td><strong>Fluoride</strong></td>
<td><strong>If you have</strong> treatment to your <strong>head and neck area</strong>, you will be given <strong>fluoride trays</strong>. Use your fluoride trays for 10 minutes every day before you go to bed. If you were given a different fluoride treatment, use it as instructed.</td>
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</table>
Lip Care

To prevent your lips from getting dry and cracked, use water-based or aloe-based lip care products such as Glaxal Base®.

Use a lip care product:

- After you brush your teeth
- At bedtime
- As often as you need

**Do not use** lemon and glycerine mouth swabs or petroleum-based lip balm, such as Lypsyl®, Vaseline® or Chapstick®. They will not heal cracked lips or restore moisture.

<table>
<thead>
<tr>
<th>Tips:</th>
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<tr>
<td>• Rinse your toothbrush with hot water after you brush. Let it air dry.</td>
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<tr>
<td>• Change your toothbrush every 2 months.</td>
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<tr>
<td>• If brushing hurts too much, cover your finger with a foam swab or moist gauze and rub your teeth. Rinse with a recommended rinse mixture (see page 4 under mouthwash).</td>
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</tbody>
</table>
What about dentures and partials?
If you have mouth sores, do not wear your dentures at night. If your dentures irritate your mouth, stop wearing them for a while. If the irritation does not go away in 10 - 14 days (2 weeks), tell your doctor.

- Remove your dentures when you do mouth care.
- Brush and rinse your dentures after every meal.
- At bedtime, clean with a denture toothpaste and a denture brush before you soak them overnight.
- Store your dentures in a denture cup with clean water.
- If your mouth is sore, leave your dentures out, or use them only when you eat.

What to do if you Develop Mouth Side Effects

You may start to experience mouth side effects 1 – 2 weeks (7 – 14 days) into treatment. Side effects can last until a few weeks after treatment is complete.

If you had surgery or radiation to your head and neck, some of these side effect may be permanent

Dry Mouth

Your cancer treatment can reduce your mouth’s ability to produce saliva, especially if you have radiation to your head and neck area. This causes dry mouth and lips. You may also have difficulty with talking, tasting food, and swallowing.

Not having enough saliva can lead to the formation of cavities (tooth decay), and oral yeast infections (thrush).
Tips to reduce dry mouth:
- Sip a lot of water throughout the day.
- Rinse your mouth with alcohol-free mouthwash, club soda, or with a bland rinse (1 tablespoon (TBSP) of baking soda in 2 cups of water) after every meal.
- Use a mouth moisturizing spray or gel, such as Biotene® Oralbalance Gel®, Biotene Moisturizing Mouth Spray®, Mouth Kote®, or Moi-Stir®. You can buy these at your pharmacy. Talk with your pharmacist if needed.
- Suck on a sugarless mint or gum that has xylitol in it such as Xylichew® mints or Excel® gum.
- Use water-based lip care products such as Dermabase®, Blistex®, or Glaxal Base®.
- Increase air humidity at home and at work with a stand-alone humidifier, or by turning up the humidity on the heating/cooling system.
- If you had head and neck treatment, visit your regular dentist as recommended by your hospital dentist.

What NOT to do:
- Do not use petroleum-based lip balm, such as Vaseline® or Chapstick®.
- Do not smoke or use tobacco products.
# What to Eat

<table>
<thead>
<tr>
<th>Eat</th>
<th>Do not eat</th>
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<tr>
<td>• Fruits that are soft, and have low acid such as melons, canned</td>
<td>• Foods or drink that are spicy or salty</td>
</tr>
<tr>
<td>fruit juices such as pear, peach or apricot.</td>
<td>• Foods that are acidic — these foods can be hard on your teeth.</td>
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<tr>
<td>• Food that is moist, soft and easy to chew and swallow. Try</td>
<td>• Food and sugary drinks like pop, candy, or some fruit juices.</td>
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<tr>
<td>adding gravies, sauces, butter and oil to your food.</td>
<td>• Food or drink that is very hot or very cold.</td>
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<tr>
<td>• Foods that are high in protein and calories, such as yogurt,</td>
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<tr>
<td>cottage cheese or cream soups.</td>
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<tr>
<td>• Nutritional supplement drinks such as Boost Plus® or Ensure</td>
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<tr>
<td>Plus®, or puddings.</td>
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<tr>
<td>• Choose soft foods that are easy to chew and swallow.</td>
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</table>

<table>
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<tr>
<th>Other useful tips</th>
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<tr>
<td>• Try to eat small meals every few hours.</td>
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<tr>
<td>• Take small bites of your food.</td>
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<tr>
<td>• Sip fluids such as water while you eat.</td>
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<tr>
<td>• Avoid alcohol and tobacco if you can — these can dry out your</td>
<td></td>
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<tr>
<td>mouth.</td>
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<tr>
<td>• <strong>Talk to a dietitian</strong> if you need more information.</td>
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</table>
Sore Mouth and Throat

Your mouth and throat are sensitive to cancer treatments. The side effects of treatment on your mouth and throat can cause you pain with swallowing, eating, and talking, especially if you have radiation to your head and neck area. There are things you can do to help with your pain.

- Use a pain relieving mouthwash. Your oncologist or dentist can prescribe you this.
- Keep swallowing. **Do not stop swallowing because of pain.** It is very important to keep swallowing if it is safe to do so. This will help you maintain swallowing function and a good diet after treatment.
- Tell your family doctor, surgeon, oncologists, nurses, dentist, physical therapist and other healthcare providers about your swallowing pain.

Mouth Sores

Radiation treatment and chemotherapy can cause the inside of your mouth to swell and become sore. This is called **mucositis.**

You may develop temporary open sores (similar to canker sores), which will begin to heal once you are finished treatment. These sores may make it difficult to eat and could lead to an infection.

Tips that can help:
- Suck on ice chips for 30 minutes (half an hour) before chemotherapy.
- Ask your oncologist or dentist for a mouthwash to help with pain, such as Tantum Verde®.
- Follow the **“What to Eat”** section (page 9).
- Keep your mouth clean and healthy.
Jaw Stiffness

Radiation treatment to your head and neck could make your jaw feel stiff and make it harder to open your mouth. This is called **trismus**. This makes it difficult to eat, clean your mouth, and have dental care. This can happen months after treatment is complete.

- If you have jaw stiffness, talk to your health care team. You will need to see a **physiotherapist**.
- Your doctor may prescribe pain medications or muscle relaxants.
- Ask your dentist for a tool to help you stretch your jaw.

Infection

Your cancer treatment increases the chances of getting an infection in your mouth.

- Chemotherapy increases the chances of an oral infection. Do regular dental and mouth care to reduce your risk.
- Use a mouth rinse to help prevent infection.
- Tell your doctor or dentist if you have bleeding, sores, or white patches in your mouth.
Denture Discomfort

Your mouth may change after your treatment and if you wear dentures, they may not fit well anymore.

- Temporary fix: you can have temporary changes (soft relines) to your dentures during treatment.
- Permanent fix: 3 to 6 months after you finish your treatment, talk to your dentist about fixing your dentures.

If you had treatment for head and neck cancer, you will need to see your hospital dentist before making changes to your dentures.

Taste and Smell Changes

Food may taste different or have no taste at all during and after your treatment. This usually improves weeks to months after radiation treatment. Taste and smell changes can also be permanent.

Tips for dealing with taste and smell changes:

- Rinse your mouth and brush your tongue before each meal.
- If the smell of food bothers you, try eating foods cold, at room temperature, or cook your food outside on the BBQ.
- Try using plastic cutlery and glass cookware to reduce metallic taste.
- Try eating different flavours. You may find you like to eat different foods and flavors than in the past.
- Suck on sugarless candy to cover bad taste.
- Keep eating foods high in protein and calories.
Osteoradionecrosis (also known as bone death from radiation treatment) is very rare. It is caused by **high doses of radiation treatment to the mouth and jaw area**, which can reduce the amount of blood and oxygen in the jaw bone.

The low amount of oxygen makes the jaw bone become unhealthy and unable to heal itself. In some people, areas of bone may be exposed.

Osteoradionecrosis can happen **any time** after **head and neck radiation treatment** is finished, and is a risk over your lifetime.

If you've had radiation to your head and neck, you will need regular dental checkups and good mouth and dental care to watch for this side effect.

There are things that can help reduce the risk of osteoradionecrosis:

- Stop using alcohol and tobacco products
- Avoid damage to your mouth
- Antibiotics may be required to treat infection
- Tell all of your doctors if you develop osteoradionecrosis
- Use alcohol free mouthwash (such as Perichlor®) to keep exposed bone clean
- Pain relievers can decrease pain, ask your doctor for options

If it gets worse, you may need other treatments.
How to Keep Your Mouth Healthy After Treatment is Complete

Keep a good mouth care routine that includes:

- Brushing your teeth or dentures
- Flossing
- Rinsing your mouth
- Telling your health care team or dentist if you develop mouth sores or an infection

If you had treatment for head and neck cancer:

After treatment, you will still visit the hospital dental clinic.

- Your hospital dentist will tell you how often to have dental checkups at the hospital.
- If you have a dental emergency in the 6 months after your cancer treatment, tell your hospital dentist.
- After 6 months, your hospital dentist will tell you how often to visit your regular dentist.
Cancer Nutrition Information
www.albertahealthservices.ca/nutrition/Page11115.aspx

Dental Information
• Foothills Medical Center Dental Clinic
  Calgary  403-944-2401
• University of Alberta Dental Clinic
  Edmonton  780-407-6854

Sources of Help
Check out the Sources of Help booklet for your area for a list of local resources that can help. You can pick up a booklet from your local cancer centre or visit
www.albertahealthservices.ca/cancer/Page9613.aspx

Support
Psychosocial Oncology can offer counselling to patients and family members to help reduce emotional distress and explore coping techniques.
• Calgary (south)  403-355-3207
• Edmonton (north)  780-643-4303
Cancer Patient Education

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