

Head and Neck Radiation Treatment Guide

Thank you for choosing Baptist MD Anderson for your radiation treatment. You may have questions and concerns. Your care team is here to help you. For non-urgent matters, you may call the clinic during office hours. We will respond to your message within one business day. After hours and weekends, you may call 904-202-7300 and you will be connected to the on-call physician.

The following information will help you understand your treatment process.

This material contains standard information and procedures. Because each patient receives individual treatment, your care team will give you specific information for you and your caregivers to follow which may not be the same as in this document. Follow the instructions you receive from your radiation team.

Radiation Treatment

Radiation treatment, also called radiotherapy, treats cancer by using high-energy rays or beams to pinpoint and destroy cancerous cells in your body. Although radiation treatment is similar to having an x-ray taken of a broken bone, the dose of radiation in cancer treatment is higher and is given over a longer period of time. Many forms of radiation are available. The best choice for you depends on the type of cancer you have, the extent of the cancer and its location.

Your Care Team

Many different specialists help plan your treatment and monitor you during your radiation treatment. Your care team may include:

- Radiation Oncologist (radiation doctor)
- Physician
- Nurse Practitioner (ARNP), Physician Assistant (PA)
- Radiation nurse
- Medical assistant
- Radiation therapist
- Social worker
- Behavioral Health
- Speech Language Pathologist
- Registered Dietitian
- Supportive care team
- Pain management team

If the process becomes overwhelming, contact your care team. Your team is here to help and support you.

Weekly Management Visits

You will see your radiation doctor and care team once a week while you receive treatment. These visits are called on treatment visits or OTV's. Along with your doctor, you will see an APP (physician assistant or nurse practitioner), nurse, medical assistant, and dietitian. Refer to your schedule for appointment times and location.

During this visit the team will be checking on you to make sure you are doing well and give you any medication needed to help you get through your treatment with as little side effects as possible. Starting week 3, you will also see the nurse practitioner on Fridays during a visit called a high risk on treatment visit or a high risk OTV.

Medicines and Allergies

It is important to take your medicines safely. Bring a list of all your current prescription and non-prescription medicines to every doctor's appointment. These include pain medicine, nausea medicine, stool softeners and laxatives. Also include vitamins, nutritional supplements, herbal products and any over-the-counter products. If you can, list the dosage and frequency of when and how you take the medicine. For example, you may take one 50 mg pain pill, 2 times per day. You take 1 pill in the morning and 1 pill at bedtime.

Planning for Treatment

Oral Oncology

Oral care and maintenance are very important for patients who receive radiation to the head and neck area. Radiation can cause changes in your mouth. Some changes are temporary and some are permanent. Your radiation doctor will require you to see a dentist prior to treatment beginning to check the condition of your teeth and gums.

The dentist will:

- Check your mouth for infection and disease
- Check if you need teeth removed, replaced or restored or need gum surgery
- Give you oral care guidelines, including baking soda rinses and/or daily fluoride treatments

Simulation

Before you receive treatment, you will have a simulation, which is the treatment planning session. During simulation, 3D images are taken that will help your care team create your treatment plan. The simulation allows your radiation doctor to locate the exact treatment area, take measurements for treatment planning and create a plan to protect healthy tissue while treating the cancer. This session usually takes about 45 minutes to 1 hour to complete.

During the Simulation

1. You are positioned on a treatment table. Your radiation therapist makes a custom head and neck mask made of plastic mesh. The mask helps you to keep very still during treatments and ensures correct positioning during treatment. Tell your care team if you have problems in enclosed spaces (claustrophobia). Help is available.
2. After making your mask, your care team takes a computerized tomography (CT) scan and x-rays. These images create a 3D picture of your treatment area. While the scans are taken, the therapists will leave the room, close the door and monitor you from the adjacent room. They can see you through a window and will also hear you. If you need something, raise your leg or speak normally and your therapists will hear you over the intercom. If needed, they can turn off the machine and come into the room right away.
3. A therapist marks your skin to ensure that the radiation is aimed at the same area during each treatment. If the treatment area (the area of your body being treated with radiation) is on your face or head, the marks usually are made on the plastic mask. Your radiation therapist will mark your chest and sides to make sure that your body is not rotated during treatment. The therapist can redraw the marks if they fade and if your doctor wants to change them as your treatment progresses.

Do not wash the ink marks off until your care team tells you it is OK.

Treatment will begin about 7-10 business days after the planning conference. This allows time for your treatment planning team to design your plan. This involves very precise and detailed work.

You will receive a call from the therapy team when the plan is ready and they will give you your appointment time for your first day. When you finish that first day you will receive a printed schedule of all remaining scheduled treatments. If you notice a conflict with any appointments, please let the therapist know ASAP so they can reschedule. We do not want you to miss any treatment dates.

Receiving Treatment

Radiation treatment is short, lasting only a few minutes, but it may take 15 to 45 minutes in the room before you are finished. Family and friends are **not allowed** in the treatment room for their safety.

On the first day of treatment and at least once per week, the radiation therapist will take x-rays before treatment begins. This verifies that the radiation is targeted to the correct area. Sometimes, slight adjustments are required. The therapist will make these adjustments and your radiation doctor will verify that it is correct with another x-ray. You may have several verification simulations throughout treatment. Your doctor needs these to verify the treatment field.

Although the treatment machines are large and may be noisy when in use, try to relax and breathe normally. You should not feel pain. You may choose to have music, nature sounds, or silence during treatment.

During Treatment

Once you are positioned, **do not** move until the therapist tells you that you are finished. You are in the same position for every treatment.

When you are positioned on the table, the therapist will leave the room, close the door and monitor you on a closed-circuit monitor. Your therapists can give you updates throughout the treatment. If you need something, just speak normally or raise your hand if it is an emergency. If needed, the therapist can turn off the machine and come into the room right away. The radiation stops when the machine is off.

Your radiation doctor may want to change the treatment area and markings as your treatment progresses. If you have questions or concerns about your treatment or treatment schedule, talk with your radiation team.

Treatment Schedule

Treatments are usually scheduled every weekday, Monday through Friday, allowing you to rest on Saturday and Sunday. You will receive all treatments as an outpatient over a period of 6 to 8 weeks. You will be contacted if the clinic plans to close for a scheduled holiday. Ask your radiation therapist if you have questions about your treatment schedule or need to change your appointment time. We try to accommodate schedule requests. Due to the number of patients we serve, schedule change requests are not guaranteed.

Side Effects

Side effects depend on the part of the body being treated and the stage of the tumor. Most side effects go away within a few weeks after treatment ends. During your weekly visits, your radiation doctor, PA or nurse practitioner, dietitian and nurse will help you manage side effects and symptoms you have.

Fatigue

- You may feel more tired than usual. Get plenty of rest and do not overdo activities.
- Some patients find it helpful to do light activity, such as walking for 15 to 20 minutes, 2 to 3 times per day. If you feel tired, stop and rest.

Hair Loss

- You may lose hair in the area being treated. This hair loss may be permanent.
- You may lose hair if you also receive chemotherapy.

Skin

- The skin in the treatment area may become red and itchy after 2 to 3 weeks of treatment.
- After several weeks of treatment, your skin may peel and weep.

- **Do not** scratch your skin or wear tight clothing.
- **Do not** scrub your skin. When washing skin, just use water and soap gently on the skin.
- Ask your doctor or APP about medicines to help relieve itching. Use only the products that your doctor or APP have approved.

Nose

- If your sinus (nose) area is in the treatment field, your nose may feel stuffy and you may have some bleeding from the nose.
- If needed, you will receive a prescription for a saline solution. Use this to rinse your nasal cavity several times a day to help loosen and clear dried mucous.
- Your doctor may also prescribe a nasal gel to apply inside your nose to keep your nasal passages moist.

Swallowing

- If part of your mouth or neck is in the treatment field, you may have pain in your mouth and throat when eating and drinking. It may also be difficult for you to swallow due to swelling you may have in your throat.
- You may need to eat soft foods and liquids so that you can maintain your weight. We will be monitoring your weight in your weekly office visits as well.
- A speech pathologist may work with you to help you eat, drink and swallow safely.
- Your radiation team will work with you to manage any throat pain you may have. This will help ease pain when swallowing, eating and drinking.

Saliva

- Your saliva may get thick and sticky and you may have some bloody saliva. This is normal.
- Drink fluids as directed to help thin your saliva and rinse your mouth with a baking soda solution.
- Your saliva should improve 1 to 6 months after treatment ends and may take 1 to 2 years to fully improve.
- You may have some dryness in your mouth for the rest of your life. However, the salivary glands often recover and make saliva over time.

Taste

- You may have changes in taste and may not feel like eating or drinking.
- Some foods may taste bitter, metallic or have no taste at all. Use plastic utensils to help manage the metallic taste.
- It may help to eat small meals or snacks throughout the day instead of 3 big meals. A dietitian will give you more eating tips.
- If you are unable to eat, your doctor will talk to you about a feeding tube, or Peg Tube as another way to take in nutrients and fluids. When you can maintain your weight following treatment, your clinic team will talk to you about removing the feeding tube.

The chart below is a summary of side effects and the time when symptoms begin.

Side Effect	Average Time When Symptoms Begin	Average Start of Recovery Time
Fatigue	2 to 4 weeks	1 to 12 months
Skin	2 to 4 weeks	2 to 4 weeks
Pain	2 to 4 weeks	4 to 10 weeks
Swallowing	2 to 4 weeks	4 to 10 weeks
Thick saliva	2 to 4 weeks	1 to 6 months
Taste	2 to 4 weeks	1 to 24 months or longer

Home Care During Treatment

Tobacco Use

- Stop smoking, chewing or dipping any tobacco products and avoid second-hand tobacco smoke. It will make your symptoms worse and can decrease cure rates.
- Programs are available to help you and your loved ones stop smoking. For more information, ask a member of your care team.

Nutrition

- It is very important that you take in enough food and fluids to stay well hydrated and to keep your weight up during treatment.
- Your team records your weight during your weekly clinic visit.
- A dietitian can talk with you about your food and fluid needs.
- If you are unable to drink enough fluids or eat enough food to maintain your weight, tell your radiation nurse or dietitian. The team will schedule you for weekly or bi-weekly hydration appointments

Mouth and Throat Care

- Dental visits and good mouth care are important during and after treatment.
- If needed, you may have an appointment with a dentist. The dentist will talk with you about brushing, flossing and using fluoride therapy as needed to prevent damage to your teeth and jawbone.
- If part of your mouth is in the treatment field, you will use baking soda rinses to keep your mouth clean and fresh and to help prevent infections. Follow the instructions below to make a baking soda rinse.



- For daily use, mix 1 teaspoon of baking soda in 16 ounces of water. Rinse in your mouth for 30 seconds before and after meals. Do this at least 6 times a day.
- You can also use this rinse to clean your gum line. Using a soft-bristled toothbrush, gently massage all your gum-line surfaces. Massage 1 tooth at a time for 5 to 6 seconds each. Do this before bedtime, unless you receive other instructions by your radiation doctor.
- Start doing the baking soda rinses when you begin your first treatment and continue rinsing every day. Continue doing the baking soda rinses for at least 1 year after your treatment is complete.
- During treatment and after, you may want to use a Biotene[®] spray to help with the dryness.



16 ounces
warm water



1 teaspoon
baking soda

Avoid things that can irritate your mouth and throat. These include:

- Tobacco
- Alcohol
- Carbonated beverages
- Fruit juices, such as citrus, pineapple or tomato
- Sharp-edged foods, such as pretzels and potato chips
- Highly seasoned and spicy foods
- Very hot or very cold foods and beverages
- Over-the-counter mouthwash – You may use alcohol-free mouthwash.
- Over-the-counter toothpaste – Most may irritate your mouth and cause pain. You may use only regular flavored Crest[®], Sensodyne[®], Colgate[®], Aim[®] or Biotene[®].

Thick Saliva and Mucous

Depending on your treatment area, radiation can cause changes in your salivary glands. These changes can include thicker mucous, which may affect your eating, drinking and the way you normally speak. Talk with your radiation team if you need help managing your saliva and mucous. Your team can prescribe medicine to help loosen or dry thick saliva in your mouth or throat.

Try the self-care measures below to help with saliva and mucous.

Self-Care Measure	Note
Stay hydrated.	Saliva is mostly water and dehydration can cause the mucous to be thicker. Drink the amount of water that your dietitian recommends.
Use baking soda rinses.	As discussed above, rinse with a solution of 1 teaspoon baking soda mixed with 16 ounces of water before and after meals. Do this at least 6 times per day to keep your mouth clean and to clear out mucous throughout the day.
Add ¼ teaspoon salt to baking soda rinses or rinse with flat diet ginger ale.	If the mucous is hard to dislodge, add ¼ teaspoon of salt to the baking soda rinses to help remove mucous. You can also try rinsing with a flat diet ginger ale to help dislodge mucous.
Use a cool mist bedside humidifier at night-time.	This can help with dry mouth during the night.
Elevate the head of your bed to a 30° angle with a wedge pillow.	This can help prevent choking or gagging and can reduce the possibility of aspirating thick secretions into your lungs.
Medicine	Talk with your care team about your symptoms. They may be able to prescribe medicine to help loosen or dry the secretions.

Skin Care

- Your radiation nurse will give you instructions to care for your skin. This includes avoiding swimming pools and hot tubs, and using skin moisturizers to treat irritated skin.
- Skin moisturizers are available over-the-counter and by prescription. Talk with your care team for more information. Most recommended over-the-counter products are Aquaphor, Lubriderm, or Eucerin lotion. **Do not** use oil based lotions.
- **Instructions for applying moisturizers:**
 - It is important to wash your hands before and after performing any skin care.
 - Begin applying moisturizer to your skin in the treated area the first day of treatment.
 - Apply the moisturizer in a thin layer 3 to 5 times a day.
 - **Do not** apply over markings that the therapist may have drawn on your skin.
 - Once your treatments end, continue applying moisturizer until your skin is completely healed.
- If your skin becomes moist and begins to weep, or if it becomes red and irritated, your radiation nurse will talk with you on how to care for your skin. Your doctor may prescribe an ointment or special wound dressing products.

Bathing

- Bathe or shower in warm water with a mild soap, such as Dove®.
- Avoid using deodorant soaps. They may irritate your skin.
- Use your hands, not a washcloth, on the treated skin. **Do not** scrub the area.
- **Do not** soak the treated area in a bathtub for any period until your skin has fully healed and/or your doctor has told you that it is OK.
- Gently pat the skin dry with a clean towel after showering. This helps avoid friction and rubbing to the treated area.
- Be careful not to wash off the ink markings on your skin.

Facial Shaving

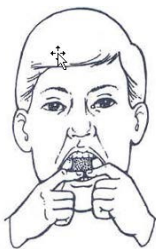
- You may use an electric shaver only, but check with your doctor or nurse before shaving any part of your treatment area.
- **Do not** use pre-shave or after-shave lotions. They contain alcohol and will irritate your skin.

Jaw and Neck Exercises

These exercises are designed to prevent stiffness in your jaw and neck muscles and to improve your range of motion (flexibility). Follow the guidelines below.

- Begin these exercises the week before you begin radiation treatment.
- Radiation causes tightness of the tissue in the treated area. It is important that you do these exercises **3 to 4 times a day**.
- Do the exercises slowly, allowing your muscles to stretch. Hold the stretch for 5 seconds.
- After treatment ends, continue doing the exercises for at least **2 years**. This will help prevent or improve stiffness in your jaw and neck.
- Stiffness may be a permanent side effect. You may need to do routine stretching exercises after 2 years.
- Ask your doctor or APP for a referral to physical or occupational therapy if you continue to have limited range of motion or problems with resuming dressing, bathing, grooming or other routine activities. If you have swelling in your face or neck, your doctor can refer you to the lymphedema clinic.

These exercises help open your mouth wide.



©MD Anderson Cancer Center

1. Gently stretch your mouth open.
2. Hold for 5 seconds.
3. Do 5 repetitions, 3 times per day.



1. Jut your lower jaw forward as shown.
2. Hold for 5 seconds.
3. Do 5 repetitions, 3 times per day.

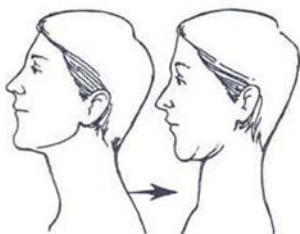
©MD Anderson Cancer Center



1. Move your lower jaw side to side.
2. Hold for 5 seconds in each direction.
3. Do 5 repetitions, 3 times per day.

©MD Anderson Cancer Center

These exercises help keep your neck flexible and promote good posture.



1. Sit with good posture.
2. Tuck your chin in and pull your head straight back.
3. Hold for 5 seconds.
4. Do 5 repetitions, 3 times per day.



1. Sit with good posture.
2. Keeping your face forward, tip your ear toward your shoulder. Repeat on other side.
3. Hold for 5 seconds on each side.
4. Do 5 repetitions, 3 times per day.



1. Sit with good posture.
2. Without moving your body, turn your head to look over your shoulder. Repeat on other side.
3. Hold for 5 seconds on each side.
4. Do 5 repetitions, 3 times per day.

Discharge Instructions

Radiation side effects often become worse 7 to 14 days after the last treatment. Side effects will slowly begin to improve over several weeks. To help you recover, it is **very important** that you follow the instructions below and those of your radiation team.

- Contact your local doctor and know the location of the nearest hospital emergency center. Your local doctor will treat and manage your long-term medical needs.
- Drink plenty of fluids as instructed by your care team.
- Eat high-calorie, high-protein meals and/or nutritional supplements as instructed by your care team. This will help promote healing and prevent weight loss.
- Continue your skin care routine until the treatment area is completely healed, including:
 - Clean your skin as instructed every day.
 - Use skin care products to moisturize your skin.
 - Do other skin care as ordered by your radiation doctor.
- Your skin will sunburn more quickly than before treatment. Avoid sun exposure to the treated area. If the treated area will be exposed to the sun for 10 minutes or longer, apply a sunscreen to the area. Use a PABA-free, non-irritating sunscreen with an SPF rating of 30 or higher that protects against UVA and UVB rays. Remember to reapply often, especially when sweating or in water. When exposed to the sun, also cover your skin with a hat or clothing.
- Continue to rinse your mouth with the baking soda solution for at least 1 year after finishing treatment. Dry mouth can continue after treatment stops. Use saliva substitutes as instructed by your doctor.
- Continue jaw and neck exercises every day as instructed. Do these exercises exactly as prescribed after treatment.
- Resume light activity, such as walking, until your energy improves. Exercise and be physically active to a level you are comfortable with. You will gradually regain your strength and resume your normal activities.
- Follow up with your dentist to maintain routine dental care. Continue with your lifelong fluoride treatments and schedule routine check-ups with your dentist every 4 to 6 months. If you need dental work, tell your dentist about your radiation treatment.
- Report new symptoms, such as lumps, sores or anything unusual to your APP or nurse.
- Call 911 or go to the nearest hospital emergency center if you need immediate medical attention or treatment.

Important Points

- **Do not** smoke or drink alcoholic beverages.
- **Do not** eat sharp-edged, spicy or acidic foods until your mouth and throat are completely healed, and then only as tolerated. Be careful when eating pretzels, potato chips, citrus and other similar foods.
- **Do not** drink very hot or very cold beverages until the radiated area heals completely.
- **Do not** wear dentures during radiation treatment or your recovery, until your next dental appointment or until your doctor says you may wear them. You may wear dentures when eating.
- **Do not** use pre-shave, after-shave lotions or other skin irritants until the treatment area heals.

Follow-Up Care

- It is important that you have regular follow-up exams with your primary cancer doctor. Your radiation doctor will have regular follow-up visits with you. Your appointment will be scheduled 3 months after your last radiation treatment. If you have not received a date for a follow-up appointment, call your doctor's scheduler.
- You will continue to have regular scheduled appointments with the Nurse Practitioner as needed after completing treatments and leading up to your 3 month visit with the Radiation Oncologist.
- You will have scheduled radiologic exams prior to your follow ups that you will review with your radiation doctor during your appointments
- For your follow-up appointment, bring a list of all of your current prescription and non-prescription medicines, vitamins, nutritional supplements, and herbal and over-the-counter products.
- In the future, if you need surgical procedures, dental work (extractions, surgeries) or biopsies that involve the treated area, tell your doctor about the radiation treatments you received. Your family doctor can contact your Baptist MD Anderson team for more information.

If you have questions, call the Head and Neck Radiation Clinic at 904-202-7300