



RADIATION THERAPY INFORMATION GUIDE

External radiation therapy
for ENT cancers

Name of my radiation oncologist: _____

Department phone no.: **418-691-5264**

Consult this document on: www.chudequebec.ca/Radiotherapie_orl

Introduction

Your health condition requires you to have radiation therapy.

This guide contains information about:

- What radiation therapy is;
- The steps involved in planning your treatments;
- What will happen during your treatments;
- The possible side effects;
- Recommendations during treatments.

The centre

The radiation oncology centre at CHU de Québec-Université Laval is a supraregional centre with a mission to:

- Provide quality treatments;
- Promote research;
- Participate in student training;
- Evaluate new technologies.

You may be asked to participate in research projects during your treatments.

You may also be seen by students during your visits. Students are always closely supervised by a health professional in their field.

Your team

- The **radiation oncologist** (your doctor) will meet you for a consultation. After reviewing your file, speaking to you and examining you, the doctor will decide whether you are a candidate for radiation therapy. He will oversee every step of your treatment.
- The **nurse** will be involved in assessing your physical and mental condition and will manage your symptoms during your treatments.
- **Radiation therapists** will be there to support you during your radiation therapy treatments (from preparation to administration).
- Depending on your condition, you may need to see other team members before or during your radiation therapy treatments, including a **dentist, nutritionist, social worker, psychologist** or **pivot nurse**.

What is radiation therapy?

Radiation therapy is a treatment that uses high energy x-rays or electrons to treat tumours (benign or malignant).

A machine called a linear accelerator is placed near your body. This machine gives a predetermined dose of radiation at the part of the body where the tumour is located. It can be moved in different directions.

Your treatment team checks the machines daily to make sure they're accurate and working properly.

The goal of the treatment is to destroy the cancer cells, while protecting the surrounding healthy tissue as much as possible.

Radiation therapy is painless, odourless and invisible. As soon as the treatment is over, the machine stops releasing radiation. You will not become radioactive after your treatments, and there is no danger to anyone around you.

Radiation therapy and other treatments

For some types of tumours, radiation therapy is used on its own. In other cases, it is used in combination with surgery and/or chemotherapy.

The treatment choice is based on accepted practices and a joint decision between you and your doctors.

A dental checkup will be scheduled in our department before your treatments.



First visit

Review of your medical file

In most cases, you will not have any treatment at your first radiation oncology visit. Your radiation oncologist will review your medical file and examine you, after which he will prescribe the appropriate treatment.

It's important to know that other steps need to be taken before your first treatment, which explains the delay between your first appointment and your first treatment.

At this visit, it's important to tell your doctor if you have an implantable electronic or other medical device (e.g., pacemaker, insulin pump, hearing aid). To avoid malfunction, manufacturers recommend removing some of these devices during pre-treatment examinations or treatments.





Second visit

Planning your treatment

These steps take anywhere from 3 to 4 hours.

1. Molding

The radiation therapists will help you find the most comfortable position for your treatments. This is the same position that will be used for all your treatments. So, it's important to mention any discomfort or pain. A mask will be made to hold your head and neck still. This is needed to ensure the quality of your treatments. If you have a beard, you will need to shave it before the mask is made.

2. CT scan

A CT scan will be done to pinpoint the area to be treated. It will give measurements to decide the best way to administer the radiation needed to treat your tumour.

You must lie completely still during the CT scan.

Your doctor may order a CT scan with contrast (iodine injection). If so, you'll be given the instructions for this test. Marks will be drawn on your skin. They will be used as landmarks by the radiation therapists during your treatments. Don't worry—the marks are often bigger than the area to be treated.

- **The red markings** are temporary. You will need to keep them on throughout your treatments. Do not remove them, as they are needed to ensure accuracy.

A few tips:

- When washing, do not place your marks directly under the running water.
- Pat yourself dry with a towel. Do not rub the skin.
- The ink will stain clothing.

If the marks look like they're fading, call the radiation oncology department. We will tell you what to do.

- **A few dots can be tattooed on your skin.** These are permanent, so there's no risk of them being washed off.

3. PET scan

A PET scan can be done to help us locate the area to be treated.

You must lie completely still during the PET scan.

4. MRI

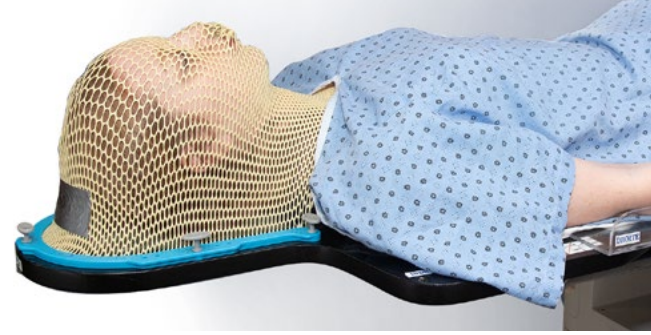
A MRI can be done to help us locate the area to be treated.

You must lie completely still during the MRI.

5. Pre-treatment waiting period

After those exams, there will be a delay while the team plans your treatment. The radiation therapists will let you know how long this will take. It may take longer if your doctor is waiting for test results. In all cases, we will adhere to the standards set by the Ministère de la Santé et des Services sociaux.

You will be notified by phone of the date and time of your first treatment. Treatments can begin any day of the week.



Some accessories may be used to help you stay in this position.



Treatments

Number of treatments required

The number of radiation therapy treatments depends on the assessment of your health condition and your file. This number is not a reflection of the seriousness of your cancer.

Treatments are usually given daily, five days a week, from Monday to Friday. They last from 1 to 8 weeks, depending on the type of cancer.

Your machine may be out of commission one day or two for maintenance. In that case, you will be notified a few days in advance.

You will meet other patients during your visits, but it's important to remember that your treatments are personalized and tailored to your individual needs.



During the treatment

You will always be greeted by radiation therapists. They are familiar with your treatment plan. They will take the time to answer your questions.

Based on the marks on your skin, you will be lined up under the machine in the proper position.

For accuracy reasons, it's important to lie very still during the treatments. However, you can breathe normally.

The radiation therapists will leave the room while the machine is running. They will be in an adjacent control room watching you on a screen. They can hear everything you say and speak to you over an intercom.

The radiation lasts only a few minutes. However, it takes about 20 minutes to get set up.

Verification images are taken at each treatment to check your position. They are not meant to see how your tumour is responding to treatment.



Side effects

Radiation therapy is a treatment that can affect normal tissue and cause side effects.

The side effects of radiation therapy can also be affected by chemotherapy and/or surgery. However, the effects of these other treatments will not be discussed here.

These side effects don't always happen. Their seriousness depends on the person, the type of disease, the dose of radiation, and the area treated.

Here is a list of possible side effects and when they tend to appear

During treatment and in the weeks that follow

Most of these side effects are temporary and will disappear within a few weeks after the radiation therapy.

Most common side effects

- Fatigue
- Redness, irritation and dryness of the skin on the neck (like a sunburn). This may lead to loss of the superficial layer of the skin (peeling, burning).
- Hair loss on the nape of the neck and loss of beard hair
- Dry mouth due to reduced saliva production and thicker saliva
- Changes to your voice
- Decreased appetite and weight loss
- Changes to and/or decrease in and/or loss of taste
- Increased secretions in the throat
- Mouth ulcers with burning sensation
- Pain in the mouth and throat, making eating difficult

If you can no longer drink or eat adequately, you may need an IV (to rehydrate you) and/or a feeding tube.

Treatments to the upper face, near the eyes and nose:

- Increased nasal secretions
- Otitis
- Eye irritation

Rare side effects (1-5 in 100 patients: 1-5%)

- Swelling and pain in the salivary glands
- Pneumonia and/or other infections

In the months/years following treatment

Most common side effects

- Fatigue and intolerance to effort for 6-12 months after the end of treatments
- Dry mouth due to reduced saliva production and thicker saliva
- Changes to and/or decrease in and/or loss of taste
- Hypothyroidism: dysfunction of the thyroid gland located at the base of the neck
- Stiffness of the skin on the neck

Rare side effects (1 in 100 patients: 1%)

- Dental cavities
- Fracture and/or infection of the jawbone
- Trouble opening the jaw
- Hearing loss
- Difficulty eating and/or feeling of food getting stuck in the throat, which may require the placement of a feeding tube
- Numbness and/or pain in the arms
- Significant swelling of the vocal cords, making breathing difficult, which may require an emergency tracheotomy
- Stroke

Treatments to the upper face, near the eyes and nose:

- Dry eyes
- Eye irritation
- Cataracts

Very rare side effects (1 in 1,000 patients: 0.1%)

- Cancer caused by radiation therapy
 - The benefits of treatment outweigh this very low risk
- Spinal cord injury that can cause paralysis
- Vision loss



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Rarely, other side effects may occur that we cannot predict.

*However, if you develop side effects that are causing you discomfort, **feel free to contact us.***



Medical follow-up

During your treatments, your radiation oncologist will meet with you about once a week. No appointments are necessary. A schedule is posted in the waiting room each week indicating the day your radiation oncologist will see you. This schedule will be explained at your first treatment.

You will also be seen by a nutritionist from the beginning of your treatments. They will help you maintain an adequate diet despite your side effects. Eating a healthy diet, with enough calories, protein, vitamins and minerals, will help you fight off illnesses and tolerate the treatments better.

Recommendations during treatments

General advice

- Tell the radiation therapist, the nurse or the radiation oncologist if you develop any side effects.
- Make sure you get plenty of rest but still stay active.
- It's important to eat well and maintain your weight. If you notice that you've lost weight, it's important to mention this to your doctor.
- Avoid alcohol, very hot foods, and spicy foods.
- Use a homemade mouthwash four times a day.
- Here's the recipe for the mouthwash: 1 litre water + 1 tsp. (5 ml) salt + 2 tsp. (10 ml) baking soda. You can keep the mouthwash for 24 hours at room temperature.
- **If you have the potential to get pregnant, use an effective method of birth control during your treatments.**



Hygiene and skin care



- Wash the treated area (in moderation) with warm water and a mild, unscented soap. **Do not remove the marks on your skin; they are very important to ensure the quality and accuracy of your treatments.**
- Do not apply wet compresses to the treated area to soothe pain or itching.
- As needed, apply a fragrance-free moisturizer at least once a day to the treated area. Do not apply cream on your markings as it can erase them. As needed, stand in front of a mirror while applying cream. There's no reason to refrain from applying cream before coming for your treatments. You also don't need to wash off any cream before your treatments.
- Use only an electric razor.
- Keep this area dry; do not rub the treated skin with a rough towel, but dry it completely by patting it with a soft towel. In certain specific situations, the radiation oncologist may recommend using a cool air dryer.
- Avoid rubbing the treated areas. Try to wear loose-fitting cotton clothing. Expose the treated area to fresh air regularly.

Sun exposure and swimming



- Do not expose the treated area to the sun during treatments. Afterwards, it's recommended you cover the treated area completely if exposing it to the sun. After the treatments, you should use sunscreen to protect your skin if exposing it to the sun.
- Swimming: If your skin is not irritated/red, you can go swimming. **Make sure your markings don't come off.** If your skin is irritated, you can still go in the water, but don't get the treated area wet.
- Spa: Not recommended during treatments and within two weeks after treatments or until skin irritation has resolved.

Smoking



- You should abstain from smoking during your treatments and quit permanently afterwards. Support is available at www.tobaccofreequebec.ca/iqutnow or by calling 1-866-JARRETE (1-866-527-7383). You can also talk to your doctor or pharmacist about other resources to help you quit.

Alcohol



- Avoid drinking alcohol during your treatments. If you have an alcohol addiction or are concerned about your drinking, talk to your doctor. You can also get support from the Gouvernement du Québec's Mes Choix Alcool program: www.educalcool.qc.ca/en/on-the-go/mes-choix-alcool.

Notes

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Radio-oncologie

This guide contains recommendations consistent with the scientific information available at the time of publication in september 2023. However, these recommendations are no replacement for medical advice. If you have any questions, please speak to your health provider.

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