



RADIATION THERAPY INFORMATION GUIDE

External radiation therapy
for your child

Name of my radiation oncologist: _____

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

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

Introduction

Your child's health condition requires them to have radiation therapy.

This guide contains information about:

- What radiation therapy is;
- The steps involved in planning the treatments;
- What happens during the 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 child's doctor) will meet you for a consultation. After reviewing your child's file, speaking to him/her and examining him/her, the doctor will decide whether your child is a candidate for radiation therapy. He will oversee every step of your child's treatment.
- The **nurse** will be involved in assessing your child's physical and mental condition and will manage his/her symptoms during their treatments.
- **Radiation therapists** will be there to support you during your child's radiation therapy treatments (from preparation to administration).
- Depending on your child's condition, he/she may need to see other team members before or during their 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 child's 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.



The 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. Your child will not become radioactive after their treatments, and there is no danger to anyone around your child.

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 child's doctors.



First visit

Review of medical file

In most cases, no treatment will be given at the first radiation oncology visit. The radiation oncologist will review your child's medical file and examine him/her, after which they will prescribe the appropriate treatment.

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

At this visit, it's important to tell the doctor if your child has 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 the treatment*

These steps take anywhere from 3 to 4 hours.

1. Molding (if needed)

The radiation therapists will help your child find the most comfortable position for his/her treatments. This is the same position that will be used for all the treatments.

So, it's important to mention any discomfort or pain.

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

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 the tumour.

It is important that your child stay still during the CT scan.

Your child's 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 child's skin. They will be used as landmarks by the radiation therapists during the treatments. Don't worry—the marks are often bigger than the area to be treated.

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

A few tips:

- When washing your child, do not place the marks directly under the running water.
- Pat them 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 his/her 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.

It is important that your child stay still during the PET scan.

4. MRI

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

It is important that your child stay still during the MRI.

5. Pre-treatment waiting period

After those exams, there will be a delay while the team plans your child's treatment. The radiation therapists will let you know how long this will take. It may take longer if your child's 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 child's first treatment. Treatments can begin any day of the week.

Treatments

Number of treatments required

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

Their 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 child's treatments are personalized and tailored to its individual needs.

During the treatment

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

Based on the marks on your child's skin, he/she will be lined up under the machine in the proper position.

For accuracy reasons, it's important that your child lies very still during the treatments. However, your child can breathe normally.

The radiation therapists will leave the room while the machine is running. They will be in an adjacent control room watching your child on a screen. They can hear everything your child says and speak to him/her over an intercom.

The radiation treatment usually lasts only a few minutes, but you should allow approximately 30 to 60 minutes for positioning and treatment.

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





Side effects

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

Side effects vary significantly depending on the part of the body being radiated and on the dose used. Your radiation oncologist will take the time to explain any side effects your child may experience during and after their treatments. Feel free to ask questions.

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.



418 691-5264

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

However, if your child develops side effects that are causing him/her discomfort, feel free to contact us.



Medical follow-up

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

Recommendations during treatments

General advice



- Tell the radiation therapist, the nurse or the radiation oncologist if your child develops any side effects.
- Make sure he/she gets plenty of rest but still stays active.
- Make sure he/she maintains it's weight. If you notice that your child has lost weight, it's important to mention this to your doctor.
- **If your teenage daughter is sexually active, make sure she uses an effective method of birth control during her treatments.**

Hygiene and skin care



- Your child can apply a fragrance-free moisturizer at least once a day to the treated area.
- He/she can wash the treated area (in moderation) with warm water and a mild, unscented soap.
Do not remove the marks on his/her skin; they are very important to ensure the quality and accuracy of the treatments.
- The marks can be removed with an unscented moisturizer at the end of the radiation therapy treatments.

Sun exposure



- Do not expose the treated area to the sun during treatments. After the treatments, you should use sunscreen to protect the skin if exposing it to the sun.
- Swimming: If the skin is not irritated/red, your child can swim.
- Be careful with marks on the skin; do not rub them off. If there is skin irritation, your child can swim without getting the treated area wet.

Notes

[illegible]

Notes

[illegible]



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.

This document may not be reproduced, in whole or in part, without written authorization from the CHU de Québec-Université Laval.



The translation of the Information Guides is courtesy of the User committee of CHU de Québec-Université Laval.

© CHU de Québec-Université Laval, 2025

09/25, produced by the communications department

Printed on FSC®-certified, ECOLOGO®-certified, and chlorine-free



100 % post-consumer recycled paper



Manufactured using biogas energy