



RADIATION THERAPY INFORMATION GUIDE

External radiation therapy for stomach,
pancreatic and bile duct cancer

Name of my radiation oncologist: _____

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

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

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 appointments. 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 **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.



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 they 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 40 to 75 minutes.

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



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

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 you.

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.

Avoid eating large meals less than two hours before your test.

Marking

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.

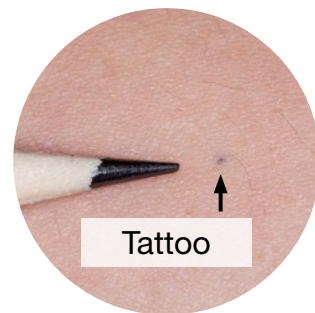
- **The red markings** are temporary. You will need to keep them on throughout your treatments. Do not remove them, as they are needed to ensure accuracy.

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.

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.

Avoid eating large meals less than two hours before your radiation therapy treatments.

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. However, the effects of this treatment 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

A few days after the start of the treatments

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

Probable side effects

- Fatigue
- Redness, pain and skin irritation in the treated area
- Reflux and burning sensation in the chest and abdomen
- Decreased appetite
- Nausea, vomiting
- Weight loss
- Mild-to-severe diarrhea
- Abdominal cramps
- Placement of a feeding tube
- Infection: always consult if you develop a fever



418 691-5264

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

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

In the months/years following treatment

Possible side effects

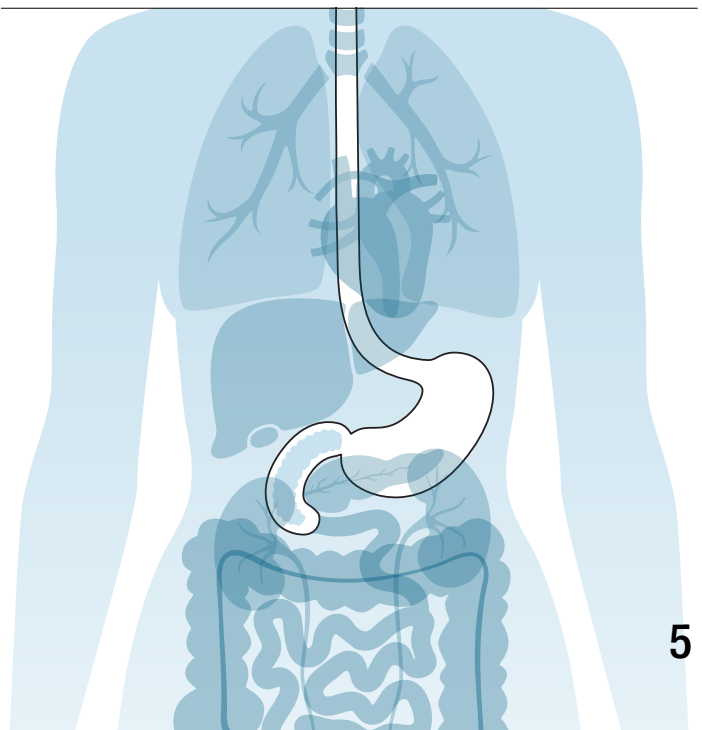
- Slower digestion
- Discomfort during digestion
- Reflux and heartburn
- Burning in the stomach or bowel that does not heal (ulcer)
- Bleeding in the stomach or bowel

Rare side effects

- Decreased liver function
- Decreased kidney function

Rare but serious side effects

- Perforated stomach or bowel
- Opening (fistula) between two organs



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 on the bulletin board each week indicating the day your radiation oncologist will see you. This schedule will be explained at your first treatment.

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.
- Maintain your weight. If you notice that you've lost weight, it's important to mention this to your doctor.
- **If you have the potential to get pregnant, use an effective method of birth control during your treatments.**

Nutrition



- You will be followed by a nutritionist. Make sure you follow their advice.
- Here are some general tips to reduce the amount of air in your intestines and minimize flatulence, which will make your treatments easier.

This is not long-term advice; follow it only for as long as you're undergoing radiation therapy.

1. **Eat slowly and chew your food well.** When you eat fast, you swallow a lot of air, which ends up in your intestines.
2. **Ingest less air:** Avoid chewing gum and drinking sparkling water, beer, sparkling wine and other carbonated beverages. You should also avoid drinking through a straw.
3. **Limit gassy and fermentable foods:**
 - **Certain vegetables:** onions, garlic, radishes, peas, corn, turnips and rutabaga
 - **Cruciferous vegetables:** cabbage, brussels sprouts, cauliflower, broccoli, sauerkraut
 - **Certain fruits:** prunes, plums
 - **Legumes:** lentils, chickpeas, kidney beans, pea soup, baked beans
 - **Sorbitol:** sorbitol is found in some sugar-free products, such as sugar-free candy, chocolate, cookies, *etc.*
4. **Avoid becoming constipated.** It's important to have a bowel movement as soon as you feel the urge. Good hydration and an active lifestyle can also reduce the risk of constipation. You can ask your doctor for a mild laxative if you suffer from constipation.



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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