



RADIATION THERAPY INFORMATION GUIDE

Stereotactic body radiation therapy (SBRT)
for pancreatic tumors

Name of my radiation oncologist: _____

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

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

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 **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 tumors (benign or malignant).

A machine called a linear accelerator will deliver the radiation to your pancreatic tumor. This machine will move around you, in different directions.

Your treatment team checks the machine daily to make sure it is 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 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 for anyone around you.



Stereotactic body radiation therapy

Stereotactic body radiation therapy (SBRT) is a modern radiation therapy technique that aims to deliver very high doses of radiation precisely to your pancreatic cancer, using a few number of treatments. Pancreatic SBRT is usually used alone, but it is sometimes used after surgery or other local treatment, and sometimes used between two cycles of chemotherapy or another systemic therapy. The treatment choice is based on accepted practices and a joint decision between you and your doctors.

First visit

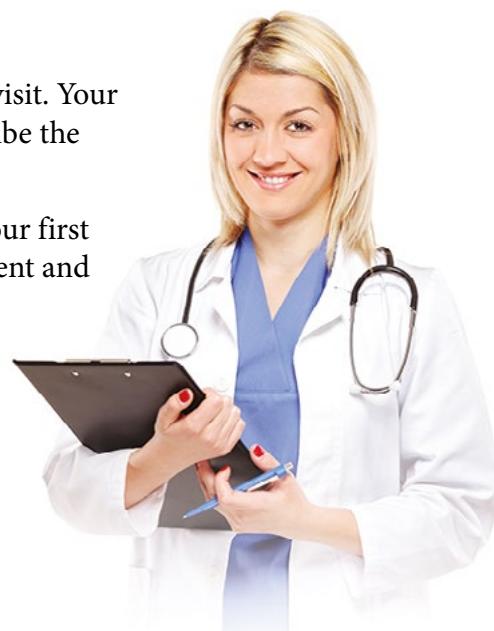
Review of your medical file



You will not have any treatment at your first radiation oncology visit. Your radiation oncologist will review your medical file and 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 approximately 3 to 4 hours and may be spread over 2 days.

It is important to follow any dietary instructions you may be given for planning appointments.

It is possible that some accessories may be used to help you maintain this position.



1. Molding

The technologists will guide you into the most comfortable treatment position possible. This position will remain the same throughout all stages of treatment. It is therefore important to let them know if you experience any discomfort or pain.

Immobilization is necessary to ensure the quality of your stereotactic radiotherapy treatments. To ensure immobilization, a cushion molded to your body will be made, and an abdominal compression system (a belt that compresses the abdomen) may be used. If you have a stoma, it is likely that this abdominal compression system will not be used.

Note: We recommend taking 2 acetaminophen tablets approximately 1 hour before this appointment. The position with your arms raised may cause shoulder pain. Also, plan to bring your inhaler to avoid coughing and shortness of breath. If necessary, discuss this with your radiation oncologist.

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 to treat your cancer.

Several sets of images will be taken to locate your tumour throughout the respiratory cycle.

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.

There are two types of marks: **tattoos** and **red ink markings**.

- **The tattoos** are permanent, so there's no risk of them being washed off.
- **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.
 - 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.

3. Magnetic resonance imaging (MRI)

Even if you've already had an MRI of the pancreas, we may need to repeat this test to get a more accurate picture of the area to be treated. If so, you'll be given the instructions for this test.

4. 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.

5. Pre-treatment waiting period

After the CT scan, you'll need to wait 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 du Québec.

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

Treatments are usually given over a short period of time (e.g. 5 treatments), every other day, on weekdays (Monday to Friday), over 1 to 2 weeks.

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.

The course of treatment

It is important to follow any dietary instructions you may be given for treatment appointments.

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 50 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.

Note: We recommend you take 2 acetaminophen tablets about one hour before this appointment.

The raised-arm position can cause shoulder pain.

*** It is very important that you come to all your appointments. If you can't make it, please let us know as soon as possible.**



Side effects

Stereotactic body radiation therapy (SBRT) is a powerful treatment that can sometimes affect normal tissue and cause side effects. If the treated area is small, side effects are uncommon. The severity of side effects can depend on the individual, the type of disease, the radiation dose, and, above all, the area irradiated.

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

Possible effects, which may vary depending on the treated area:

- Redness, pain and skin irritation in the treated area
- Nausea, vomiting
- Decreased appetite
- Oesophagus and/or stomach irritation :
 - Pain or heartburn
 - Pain or difficulty when passing food
- Mild to severe diarrhea
- Abdominal cramps

In the months/years following treatment

Most common effects:

- Slower digestion
- Scar tissue in the treated area of the pancreas (fibrosis)
- Discomfort or pain in the treated area

Rare but serious effects:

- Burning sensation in the stomach, duodenum, or intestine that does not heal (ulcer)
- Bleeding in the stomach, duodenum, or bowel
- Feeling of blockage when food passes through

Very rare but serious effects:

- Perforation of the stomach or intestine
- Formation of a passage between two organs (fistula)
- Blockage of the intestine, which may require surgery
- Decreased kidney function
- Crush fracture of the vertebrae near the treated pancreatic tumor



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.



Medical follow-up

During your treatments, it is possible that the radiation oncologist will meet with you at a time indicated by the radiation therapists. No appointments are necessary. A schedule is posted in the waiting room each week indicating the day your radiation oncologist will see you. If there is no meeting with the radiation oncologist during your treatments, he will schedule a follow-up appointment for you.

Recommendations during treatment

General advice



- Tell the technologist, nurse, or radiation oncologist if you experience any side effects.
- Make sure you get plenty of rest, while staying active.
- It is important to maintain your weight.
- You can apply an unscented moisturizer to the skin in the treated area once or several times a day.
- **If you are of childbearing age, make sure you use effective contraception during your treatments.**

Sun exposure and swimming



- Do not expose the treated area to the sun during treatments. 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/iquitnow 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.

Notes



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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