



RADIATION THERAPY INFORMATION GUIDE

High-dose-rate brachytherapy
for a bronchial tumour

Name of my radiation oncologist: _____

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

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

Introduction

Your health condition requires you to have brachytherapy.

This guide contains information about:

- what brachytherapy is;
- the steps involved in planning your treatments;
- what will happen during your treatments;
- the possible side effects;
- recommendations during and after the 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 brachytherapy. 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.
- The **respirologist** will review your file and consult with the radiation oncologist to decide whether you are a candidate for brachytherapy. With help from the respiratory therapist and the radiation therapist, he will place a catheter in your bronchus during the treatments.
- **Radiation therapists** will be there to support you during your brachytherapy treatments (from preparation to administration).
- **Medical physicists** will calculate your brachytherapy dose.
- Depending on your condition, you may need to see other team members before or during your brachytherapy treatments, including a **nutritionist, social worker, psychologist or pivot nurse**.

What is high-dose-rate brachytherapy?

High-dose-rate brachytherapy (HDR-BT) is a procedure that involves placing a high dose of radiation directly into the tumour to preserve as much of the surrounding normal tissue as possible. The objective is to maximise the control of the disease with minimal side effects.

In HDR-BT, a catheter is placed at the tumour site, inside the bronchus. The catheter is then connected to the treatment device.

The device contains a radioactive source of iridium-192. The radioactive source moves to different positions inside the applicator. At the end of the treatment, the source returns to its sealed capsule. This device lets us administer a very high dose of radiation in a short period of time.

Brachytherapy is painless. However, the insertion of the tube requires sedation, which will be administered by the respiratory therapy team.

The device does not release any radioactivity. You will not become radioactive after your treatments, and there is no danger to anyone around you.

Brachytherapy and other treatments

For some types of tumours, brachytherapy is used on its own. In other cases, it's used in combination with external radiation 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 examine you, after which he will prescribe the appropriate 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 breakage, manufacturers recommend removing some of these devices during pre-treatment examinations or treatments.

Treatments

You will have a total of 2 to 4 brachytherapy sessions.

It's important to remember that your treatments are personalized and tailored to your individual needs.

1. Pre-treatment steps

- Meeting with your respirologist
 - Bring your updated list of medications.
 - The respirologist needs to know if you're taking any medication that can thin your blood, such as subcutaneous heparin (*Fragmin*, *Lovenox*) or other medications (*Coumadin*, *Plavix*, *Aspirin*, *Entrophen*, *Advil*, *Motrin*, *Pradaxa*, *Xarelto*, etc.).
 - You will be told at this meeting whether you need to stop taking any of your medications.
- Someone will call you to give you your treatment appointments and tell you where to go.



2. The day before your treatment

- A nurse will call you to confirm your appointment time, review your list of medications and answer any questions.
- You must be fasting as of midnight the day before the treatment. **Do not eat or drink anything. You can take your medications with a sip of water.**
- If you use pumps (metered-dose inhalers or others, such as *Ventolin*, *Spiriva*, *Advair*, *Symbicort*, etc.), take them as usual on the morning of your treatment and bring them with you.

3. During the treatment



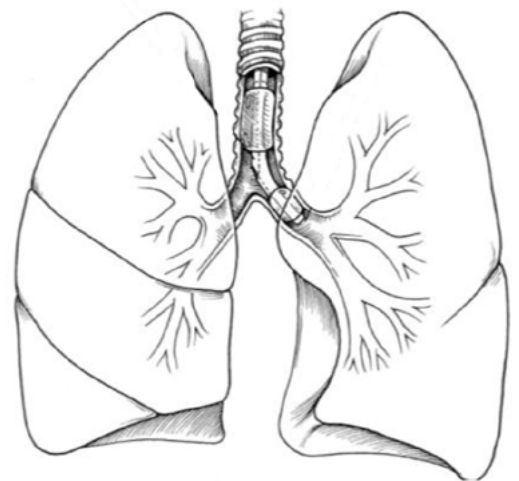
The whole process should take about 3-4 hours.

You will need someone to return home with you.

- Bring your updated list of medications.
- When you arrive, the nurse will greet you and insert your IV.
- A small catheter (tube) will be placed inside your bronchus. You will be sedated for this procedure, which is similar to a standard bronchoscopy. It's normal to have coughing fits.
- Once the catheter has been inserted, you will have a CT scan to check the position of the catheter and calculate the treatment dose.
- The radiation will then be delivered through the catheter. This step usually takes 3 to 15 minutes.
- After the catheter is removed, you will be kept for observation until you're ready to leave the hospital.



Tube to be placed in the bronchus





Side effects

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

The side effects of brachytherapy can also be affected by external radiation therapy 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 brachytherapy.

Most common side effects

- Placement of the catheter under sedation may cause discomfort but is usually painless.
- Within 2-3 days of the treatment, after having the catheter inserted, you may:
 - develop a cough;
 - spit up blood;
 - experience a mild sore throat.
- These side effects can vary in intensity and are usually harmless.

Rare side effects

- Chest pain at the treatment site

Rare but serious side effects

- Opening (fistula) between the bronchus and another organ

In the months or years following treatment

Possible side effects

- Chest pain
- Perforation of the bronchus
- Narrowing of the bronchus
- Cough

Extremely rare side effects

- Massive hemorrhage



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

You will be followed by your usual medical team (oncologist and/or respirologist).

Recommendations immediately after treatments



- The sedation may cause difficulty concentrating. It's recommended you avoid driving and operating machinery for 24 hours.
- You should not use public transit for the rest of the day.
- You must have someone with you to return home, even if you take a taxi.

Recommendations following treatments



- You can resume your normal activities in the days after the treatment.

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

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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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09/25, produced by the communications department

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