



Provincial Health Services Authority

# RADIATION THERAPY

## What to expect





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How You Can Help:

Contact the BC Cancer Foundation at: 604.877.6040

[bccfinfo@bccancer.bc.ca](mailto:bccfinfo@bccancer.bc.ca)

You can also contact the Foundation at your local BC Cancer centre:

BC Cancer–Abbotsford	604.675.7220
BC Cancer–Prince George	1.888.906.2873
BC Cancer–Kelowna	250.712.3921
BC Cancer–Surrey	604.930.4078
BC Cancer–Vancouver	604.877.6040
BC Cancer–Victoria	250.519.5550

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## Contents

- 4 Radiation therapy patient charter
- 5 Welcome
- 6 Meet your healthcare team
- 8 What is radiation therapy?
- 9 The treatment process
- 11 Common side effects
- 12 Frequently asked questions
- 14 Questions you may want to ask your health care team
- 15 Glossary
- 16 Other resources
- 17 Who do I call if I have questions?
- 18 After treatment has finished

## Radiation therapy patient charter

### People undergoing radiation therapy have the right to:

- Be treated respectfully by all personnel involved in their treatment and care.
- Access appropriate care in a reasonable time frame.
- Receive information from their care provider that is based on best evidence.
- Be given the opportunity to ask questions and provide feedback.
- Be educated about their treatment and care.
- Be actively involved in decisions related to their care and provide informed consent, which can be withdrawn at any time.
- Request a second opinion during the course of their treatment and care.
- Have their personal information kept confidential and have access to it.
- Access supportive services throughout their treatment and care.
- Have their radiation treatment coordinated with the rest of their care.

*The Radiation Therapy Patient Charter is endorsed by the Canadian Association of Radiation Oncology.*

## Welcome

You are starting your radiation therapy and you probably have some questions. This guide will give you some important general information about radiation therapy and help you understand what to expect during treatment.

You should also have a copy of your local cancer centre's **"Guidebook for Patients"**. This booklet has information about your local centre including maps and other BC Cancer resources. The BC Cancer website ([www.bccancer.bc.ca](http://www.bccancer.bc.ca)) can also help.

Remember that radiation treatment of cancer is unique to each person. You will receive more information about your specific treatment during your visits to the radiation therapy department. You will also have many chances to ask questions of your treatment team throughout your treatment.



## Meet your healthcare team

Your healthcare team is a group of healthcare professionals who work to treat your cancer. They may include:

**Radiation Oncologists** are doctors who specialize in the treatment of cancer patients, using radiation therapy. You will have an appointment with your radiation oncologist before your treatment begins and during treatment.

**Radiation Therapists** plan and deliver radiation therapy and provide patient care. They will help you with problems you may have with side effects, and can answer questions you and your family may have about radiation therapy.



**Oncology Nurses** provide care and emotional support during your treatment. They will help you manage any side effects you may have.

**Medical Physicists** help to plan your radiation treatment. They are responsible for the radiation machines and computers used to plan and give radiation therapy.

**Dentist and Dental Aides** help prepare patients for radiation treatment to the head and neck areas.

**Receptionist/Booking Clerks** will schedule your appointments and can help you with general questions or directions.

**Registered Dietitians** can answer your questions about diet and nutrition throughout your treatment and recovery. Your doctor, radiation therapist, or nurse can make a referral within your centre.

**Psychiatrists, Psychologists, and Counsellors** are mental health specialists. They can help you and your family understand, manage and cope with feelings, thoughts, worries and behaviours. Your doctor, radiation therapist, or nurse can make a referral within your centre.

**Pharmacists** prepare cancer drugs and other medications and explain how they work.

**Students** are here as a part of their training because we are a teaching facility. They are an important part of the cancer care team. A student may accompany one of the above mentioned health professionals at your visit.

## What is radiation therapy?

Radiation therapy is a very effective treatment used to kill cancer cells. It works by directing high-energy radiation beams to a specific area (external treatment) or inserting radioactive isotopes into the body (internal treatment). This treatment either kills the cancer cells or stops them from growing and reproducing.

The dose of radiation therapy used to treat the cancer is usually given as a course of treatment. The dose is divided up and given each day - it can vary from one treatment to many weeks.

Radiation therapy can be used alone or with chemotherapy (the treatment of cancer with drugs), hormonal therapy and/or surgery.

**External** radiation therapy uses different types of machines. The most common ones are called linear accelerators (linacs).

**Internal** radiation therapy (brachytherapy) involves inserting radioactive materials into the tumour site and is used only for a few very specific cancers. If you are having internal treatment you will get extra information.



*External radiation therapy machines*



## The treatment process

- **Your first visit to plan your treatment.** This usually includes a scan using the CT simulator where we will measure and map out the area that will be treated. Your radiation oncologist uses the CT images to outline areas for treatment. In some cases the radiation therapist will make an immobilization device to help hold you in place during treatment. The radiation therapist may put marks on your skin with a pen where your radiation goes. Usually you will also have small tattoos done because the pen marks will wash off. The tattoos are very small and they are permanent. You will usually not have treatment on your first visit.
- **The time between your first visit to plan your treatment and beginning your treatment will vary.** This is different for each person and allows your treatment team to plan your specific treatment.
- **Treatment usually takes about 15 to 30 minutes but** the machine is only on for a few minutes. Plan to be at the centre for about one hour each time.
- **During treatment the radiation therapists will not be in the room with you.** But they will be watching you closely on a video camera. There is an intercom so you can talk with the radiation therapist at all times. You won't feel anything while the machine is turned on but you may hear a beeping noise. The radiation therapists can interrupt the treatment if you need help. Most rooms are also equipped with music. Feel free to request your favourite type of music.
- **You may see a doctor once a week during treatment.** On the days you are scheduled to see a doctor, plan to be at the cancer centre a little longer. You can ask to see a nurse at any time if you need extra care or support.

- **Once treatment begins, in most cases you will visit Monday to Friday. We are not open at the weekends or during holidays.** Your appointment times may vary, but it is important you do not miss appointments. We do our best to accommodate everyone, but we have a lot of patients. So please keep this in mind when you change your appointment times.
- **The number of weeks of treatment depends on your treatment plan.** Each person and treatment plan is different; so your plan may not be the same as someone with a similar diagnosis.



## Common side effects

Side effects from radiation therapy may be different for everyone. It usually depends on the type of cancer, other treatments you may be having at the same time and what part of your body is being treated. In fact, some people do not have any side effects.

Side effects start slowly and can last many weeks after treatment ends. In general, most settle down after about a month.

### Common side effects from radiation therapy may include:

- A skin reaction: this is usually itchy dry skin or red warm skin like mild sunburn.
- Tiredness or fatigue: especially if you are also having chemotherapy.
- Hair loss: only where the radiation is directed (e.g. you will only lose the hair on your head if your head is being treated) or with certain chemotherapy drugs.
- Other side effects can include nausea, diarrhea or loss of appetite depending on the area being treated.

Before your first treatment you will be told more about your specific side effects. You will be given pamphlets that describe ways to help manage them.

If you experience any side effects, tell your radiation oncologist, radiation therapist or nurse. They will give you advice to help you deal with them and make you more comfortable.

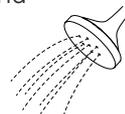
## Caring for your skin

If you are having external radiation therapy a skin reaction in the treated area is possible, talk to your treatment team about whether this might happen to you. A skin reaction is more common for some areas like the breast or head and neck. The skin in the treated area may become warm, dry or itchy. It may change colour (become pink, red, darker or tanned looking). Hair loss can happen in the treated area.

Most skin reactions begin within the first week or so of starting treatment, but timing can vary. They usually go away a few weeks after your last treatment, but some skin changes, like skin darkening or scarring, can be permanent.

To help your skin feel better, try the following:

- Be very gentle with the skin in the treated area.
- Wear loose, comfortable clothing.
- When you bathe or shower use warm water (not hot) and afterwards pat the skin dry with a soft towel.
- If your head or scalp is being treated be gentle when washing your hair (use your normal shampoo).
- Keeping your skin moisturized is recommended. There's no evidence that any cream or product is better for this. If you like a certain product or brand, please continue to use it.
- If you are looking for a moisturizer you might want to pick one that is water-based (i.e. the first ingredient on the list) or your treatment team can help if you need a recommendation.
- Once you start your treatment use the moisturizer as frequently as possible.
- Deodorants and antiperspirants may be used.
- If you want to shave, an electric razor is best.
- Avoid putting perfume, alcohol, astringents, and adhesives on the treated skin.



- Protect the treated skin from direct sunlight and wind.
- Avoid extremes of hot or cold (heating pads, ice packs, saunas etc).
- It is OK to swim as long as your skin is intact. After swimming, remove wet swimwear and gently wash the skin. Gently dry the area and apply moisturizer. Do not swim if your skin becomes irritated or if your skin breaks down.
- Do not use hot tubs or Jacuzzis®.



## Frequently asked questions

**Do radiation treatments hurt?** No, you will not feel any pain during the radiation treatments.

**Am I radioactive?** No, you are not radioactive. You can be around others at anytime during your treatments. If you have internal radiation therapy (brachytherapy), check with your oncologist or radiation therapist.

**How do I know if the treatment is working?** Once treatment is over, the effects of the radiation continue. So it is difficult to tell how well it is working until after all treatments are complete and treatment reactions have settled down. When you see your radiation oncologist for the first follow-up after your treatment, she/he will be able to discuss how effective your treatment was.

**Do I need to change my diet?** You do not usually need to change your diet. But please see a registered dietician if you have any questions about your diet. Dieticians can also help if you have any problems eating due to diarrhea, constipation, loss of appetite, weight gain or loss, sore throat, sore mouth or trouble swallowing. It is important to eat a well-balanced diet and stay hydrated during treatment. Try to drink lots of fluids while you are on treatment.

**Can I keep doing my usual activities?** It depends how you feel. Some people continue working, while others prefer to take time off. It may depend on the side effects you experience. Contact someone in Patient and Family Counselling if you have issues related to work. Remember that taking care of yourself comes first.

**What about smoking?** It is a good idea to try to stop smoking. Tobacco products can make your side effects worse and (in some cases) make the treatment less effective. Ask your doctor, radiation therapist or nurse for more information; or visit [www.quitnow.ca](http://www.quitnow.ca)

**Can I drink alcohol?** Alcohol can make your side effects worse, depending on the area being treated by radiation. Ask your doctor, radiation therapist or nurse.

**Should I be careful in the sun?** It is best to keep the treated area out of direct sunlight. Cover the area or use a sunscreen with a Sun Protection Factor (SPF) of at least 30, during treatment.

**How do I deal with the stresses in my life and how I'm feeling?**

Feelings of stress and anxiety are natural. If you have issues related to stress, anxiety, work, finances, travel or relationships, you can contact Patient and Family Counselling at any time before, during or after your treatment. They are here to help you and your family. You could also try using relaxation techniques to reduce anxiety, such as deep breathing, music, reading, and visual imagery.

**What about my pills and medications?** Please let your oncologist know about any medications, vitamins, or herbal remedies (such as complementary treatments) you are taking.

**What if I am asked to take part in a research study?** Research studies have led to many improvements in cancer treatment and you may be asked to participate in a research study. Participation in a research study is voluntary. You will be given information about the study, standard treatments for your condition and your rights as a research participant. Remember that if you do not feel comfortable participating, please say so.

**What about pregnancy?** Radiation can harm a developing fetus.

The risk is higher in the first few months of pregnancy. It is important



for women to use birth control during treatment to avoid getting pregnant. If you are pregnant or think you may be pregnant, please let us know as soon as possible.

Your treatment may be delayed until after pregnancy. If urgent, special precautions should be taken to protect the fetus. You

and your treatment team will work together to decide what is best for you. If you need to, talk to your doctor about the best time to get pregnant after you have finished your treatments.

## Questions you may want to ask your health care team:

Cancer centres and other healthcare facilities are very busy places. There may be several healthcare providers caring for you at once. You might feel that the amount of information is overwhelming and not clear to you. So it is important that you are an active member of your healthcare team. Ask questions to understand the information. Don't be afraid, embarrassed, or hesitant to ask for exactly what you need from your team. It is important to be involved in and be vocal in the decisions that affect you. Also, sometimes taking notes can be helpful so you can refer back to them and share outcomes of meetings with family and friends. Or bring a friend or family member along for support and to write down information given to you.

**Why is radiation the best treatment for me?**

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**What are the benefits and risks of radiation for me?**

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**How will we know if the radiation worked?**

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**Can I keep doing things that I used to do?**

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**Will radiation affect whether or not I can have children?**

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**Can I travel or take a vacation when I'm having radiation?**

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**What happens when the radiation ends?**

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## Glossary

**The following are terms you may see when reading about radiation therapy.**

**Brachytherapy** (Brak-ee-ther-ah-pee) - radiation therapy using implanted radioactive material placed directly into or near the tumour; also called "internal radiation therapy".

**Cancer** - a general term for more than 100 diseases. It is the uncontrolled, abnormal growth of cells that can invade and destroy healthy tissues.

**Chemotherapy** - the treatment of cancer with drugs.

**CT Simulation** - the process used to plan radiation therapy so that the precise area for treatment is located and marked.

**External Radiation** - the use of radiation from a machine located outside the body to aim high energy X-rays at cancer cells.

**Implant** - a small amount of radioactive material that is placed in, or near, a tumour. It is used in internal radiation therapy.

**Linear Accelerator (linac)** - a machine that creates and uses high-energy X-rays to deliver external radiation to a tumour.

**Radiation Therapy** - the use of high-energy ionizing radiation (such as X-rays) to kill cells.

**X-rays** - a type of ionizing radiation that can be used to diagnose disease (e.g. a chest X-ray). In their high-energy form X-rays are used to treat cancer.

## Other resources

**For many more BC and national resources please refer to your copy of your local cancer centre's "Guidebook for Patients". Ask at the reception desk if you don't have one.**

**Cancer Support Groups** - Each of the cancer centres offers a variety of support groups for patients and their families. Contact the front desk at your cancer centre or Patient and Family Counselling Services for more information.

**Internet site** - For more information visit the BC Cancer website at **[www.bccancer.bc.ca](http://www.bccancer.bc.ca)** and the BC Cancer Foundation at **[www.bccancerfoundation.com](http://www.bccancerfoundation.com)**

**Interpreters** - If necessary we will arrange for an interpreter to come to your appointments. If you feel this is needed, please talk to any member of your health care team.

**Library** - Each centre has information available about cancer such as pamphlets, books, and videos. Ask at the reception desk of your local cancer centre. The main library at the BC Cancer–Vancouver Centre is available to everyone and can be contacted at:

**604.675.8001 or toll-free 1.888.675.8001, local 678001**

**Nutrition** - There are Registered Dietitians in every centre. To make an appointment with a Registered Dietitian, please ask your doctor, radiation therapist or nurse for a referral or visit the reception desk at your centre.

**Patient and Family Counselling Services** - There are counsellors and social workers in every centre. Ask your doctor, radiation therapist or nurse for a referral or visit the reception desk at your centre to make an appointment.

## Who do I call if I have questions?

**If you have questions, please call one of the following professionals:**

### **Radiation Oncologist**

Name \_\_\_\_\_

Telephone \_\_\_\_\_

### **Radiation Therapist**

Name \_\_\_\_\_

Telephone \_\_\_\_\_

### **Oncology Nurse**

Name \_\_\_\_\_

Telephone \_\_\_\_\_

### **Other contacts:**

Name \_\_\_\_\_

Telephone \_\_\_\_\_

Name \_\_\_\_\_

Telephone \_\_\_\_\_

## After treatment has finished

After your treatment you will have follow-up visits with your radiation oncologist. Your treatment team will let you know when.

If you have problems or questions before your follow up please contact the cancer centre or your family doctor.

Follow-up is to:

- Determine the effectiveness of your treatment
- Assess any side effects
- Manage any late effects
- Detect any remaining or new disease

In British Columbia, long-term cancer follow-up is generally done by an oncologist, General Practitioner in Oncology (GPO) or a primary care provider (your family doctor or nurse practitioner) in your home community.

The exact schedule of tests and appointments will depend on the type of cancer and treatment you have had.

Seeing your family doctor or nurse practitioner is part of returning to normal. Family doctors and nurse practitioners use guidelines to determine the tests and imaging you will need over the long term. Your family doctor or nurse practitioner will consult with or refer you back to a cancer specialist if there are questions or concerns.

Your family doctor or nurse practitioner will also continue to address your health care needs that are not related to cancer, such as a sore throat or injury.

If you do not have a regular family doctor or nurse practitioner, contact the College of Physicians and Surgeons of BC to find one in your community.

### Helpful post-treatment resources:

1. Booklet: Life After Cancer Treatment (by the Canadian Cancer Society). Available from the Canadian Cancer Society or the BC Cancer Library:

**[www.bccancer.bc.ca/library](http://www.bccancer.bc.ca/library)**

2. BC Cancer List of recommended websites - survivorship:

**[www.bccancer.bc.ca/our-services/services/library/recommended-websites/living-with-cancer-websites/survivorship-websites](http://www.bccancer.bc.ca/our-services/services/library/recommended-websites/living-with-cancer-websites/survivorship-websites)**

3. BC Cancer website: Life After Cancer:

**[www.bccancer.bc.ca/health-info/coping-with-cancer/life-after-cancer](http://www.bccancer.bc.ca/health-info/coping-with-cancer/life-after-cancer)**

## **BC Cancer—Abbotsford**

32900 Marshall Road

Abbotsford, BC V2S 1K2

**604.851.4710 or toll-free 1.877.547.3777**

## **BC Cancer—Prince George**

1215 Lethbridge Street

Prince George, BC V2M 7E9

**250.645.7300 or toll-free 1.855.775.7300**

## **BC Cancer—Surrey**

13750 96 Avenue

Surrey, BC V3V 1Z2

**604.930.2098 or toll-free 1.800.523.2885**

## **BC Cancer—Kelowna**

399 Royal Avenue

Kelowna, BC V1Y 5L3

**250.712.3900 or toll-free 1.888.563.7773**

## **BC Cancer—Vancouver**

600 West 10th Avenue

Vancouver, BC V5Z 4E6

**604.877.6000 or toll-free 1.800.663.3333**

## **BC Cancer—Victoria**

2410 Lee Avenue

Victoria, BC V8R 6V5

**250.519.5500 or toll-free 1.800.670.3322**

## **BC Cancer Research**

675 West 10th Avenue

Vancouver, BC V5Z 1L3

**604.675.8000 or toll-free 1.888.675.8001**

## **BC Cancer Foundation**

150 - 686 West Broadway

Vancouver, BC V5Z 1G1

**604.877.6040 or toll-free 1.888.906.CURE/2873**

[www.bccancer.bc.ca](http://www.bccancer.bc.ca)

[www.bccancerfoundation.com](http://www.bccancerfoundation.com)



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