

Radiation Treatment to the Skin



Radiation Treatment



Alberta Health
Services

Cancer Control Alberta

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There are many ways to treat skin cancer and non-cancerous conditions of the skin. Consult with your doctor and choose the option best for you.

This booklet includes information about:

- How radiation is used to treat cancer.
- Preparing for radiation treatment.
- Recognizing the side effects.
- Managing possible side effects.

Other Alberta cancer care resources are available at your cancer centre or online - www.cancercontrolalberta.ca

A

Radiation Treatment

What is radiation treatment?

It is a cancer treatment that:

- Uses high energy x-rays to kill cancer cells and shrink tumours.
- Treats many types of cancer as well as some conditions that are non-cancerous.
- Can be used alone or combined with other treatments such as surgery, or chemotherapy.

What are the goals of radiation treatment?

The goals of treatment are different for everyone, and can change over time. **Possible goals** for treatment are to:

- **Become cancer-free** — to get rid of the cancer from your body.
- **Control cancer growth** — to stop the cancer from growing and spreading to other parts of your body.
- **Relieve or reduce symptoms** that the cancer may cause such as pain, or shortness of breath.

How does my health care team decide what treatment they should recommend for me?

It really depends on the type of skin cancer or skin condition you have, and where it is in your body. Other things we look at include:

- Your overall health.
- If you've had radiation treatment before.
- Your concerns and wishes.

Who gives me my radiation treatment?

- Your Radiation Oncologist **prescribes** your treatment.
- Radiation Therapists **give** you your radiation treatment.

B

Skin Cancer

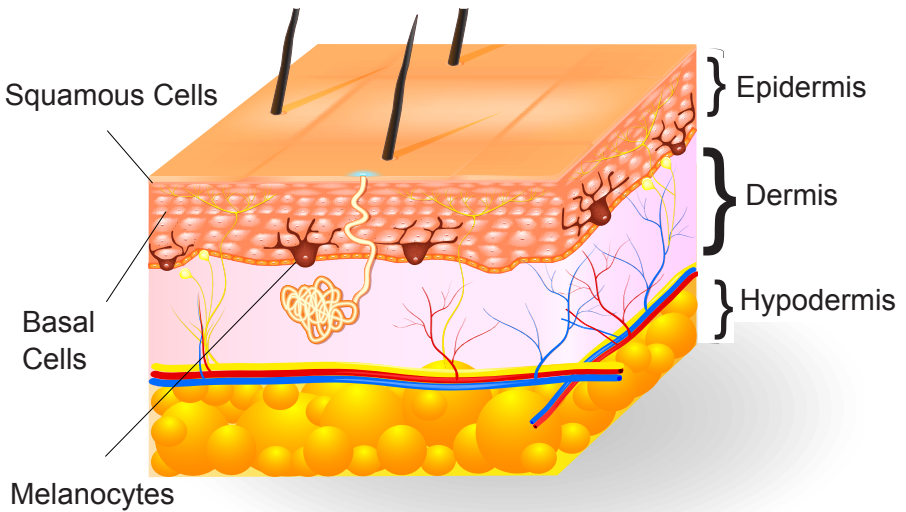
Skin cancer is a disease where cancer cells start growing from the different types of cells of the skin.

The skin:

- Helps protect us from heat, sunlight, injury, and infection.
- Has several layers — the 2 main layers are the **epidermis** (upper layer) and the **dermis** (middle layer).

Skin cancer begins in the epidermis, which is made up of 3 types of cells:

- **Squamous cells** are thin, flat cells that form the top layer of the epidermis.
- **Basal cells** are round cells and are found under the squamous cells.
- **Melanocytes** make the colour of our skin through the pigment melanin, and darken our skin from the sun. These cells are found at the bottom of the epidermis.



Types of Skin Cancers

Basal cell carcinoma:

- Most common type of skin cancer.
- Begins in the basal cells.
- Looks like a growth or a sore that won't heal.
- Rarely spreads to other parts of the body.
- Many people have a small surgical procedure to remove the cancer before they get referred to a cancer centre.



Skin cancer can develop anywhere on the body, but it is most common in skin exposed to sunlight, like our face, neck, hands, and arms.

Squamous cell carcinoma:

- Begins in the squamous cells.
- Can spread to other parts of the body if untreated.
- Many people have a small surgical procedure to remove the cancer before they get referred to a cancer centre.

Melanoma:

- Less common.
- Begins in the melanocytes.
- More likely to spread to nearby tissues or other parts of the body.
- Most people will have surgery to have it removed.
- Radiation is recommended **only when the cancer has a risk of coming back**, or if surgery cannot be done.

Other rare skin cancers include:

- Mycosis Fungoides
- Merkel Cell Carcinoma
- Kaposi Sarcoma

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Non-Cancerous Skin Conditions

The decision to use radiation for non-cancerous conditions is complicated. Talk to your doctor about the **risks and benefits** of this treatment so you can make the best decision for you.

Some conditions treated with radiation include:

Keloids

- An injury or cut that grows bigger and wider than the original scar.

Dupuytren's Contracture

- Affects a layer of tissue in the hand, eventually creating a thick cord of tissue that can pull 1 or more fingers into a bent position.
- The affected fingers cannot be straightened completely. This can make everyday activities like shaking hands or putting your hands in your pockets difficult.

Ledderhose's Disease (or plantar fibromatosis)

- Affects a layer of tissue in the feet. Over time this condition can cause pain with walking.

D**How Radiation Treatment is Given**

Radiation treatment can be provided in different ways using different types of machines. It may be either:

External Beam — the radiation is produced by a machine and aimed at the tumour, so the radiation source comes from **outside** of the body.

OR

Internal Radiation — the radioactive source is placed inside the body, either **inside** the tumour, or close to it. This is called **brachytherapy**. In some special cases this is used to treat the skin. If this is an option for you, your Radiation Oncologist will discuss this treatment with you.

Common treatment machines for treating skin include:

1. **Orthovoltage machine** (page 6).
2. **Linear Accelerator (Linac)** (page 7-8).

We will use the treatment machine that best suits your type of cancer or skin condition.

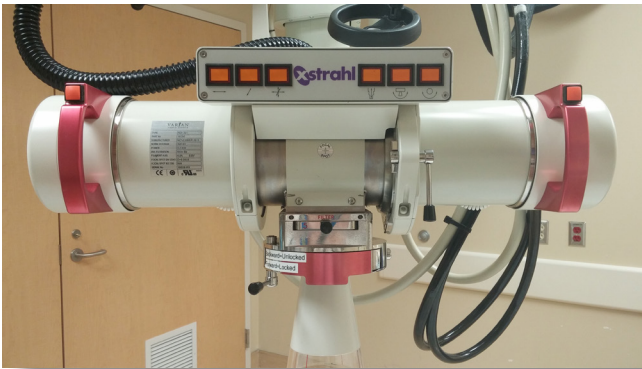
The decision is based on:

- How deep the radiation needs to go to be successful.
- Which machine can go deep enough, without damaging nearby organs.
- What the research recommends.

1) Orthovoltage

This type of treatment machine is most often used to treat skin cancer, but can also treat some non-cancerous conditions. It is one of the first machines used for radiation treatment, and has successfully treated hundreds of thousands of people with skin cancer.

It is a small machine that touches the skin during treatment and allows us to be very accurate in treating the cancer.



- While you lie down on a bed in a comfortable position, the machine will be put in position to treat your skin.
- The “treatment end” (the applicator) of the machine, will be placed against your skin during treatment.



2) Linear Accelerator (Linac)

A Linac:

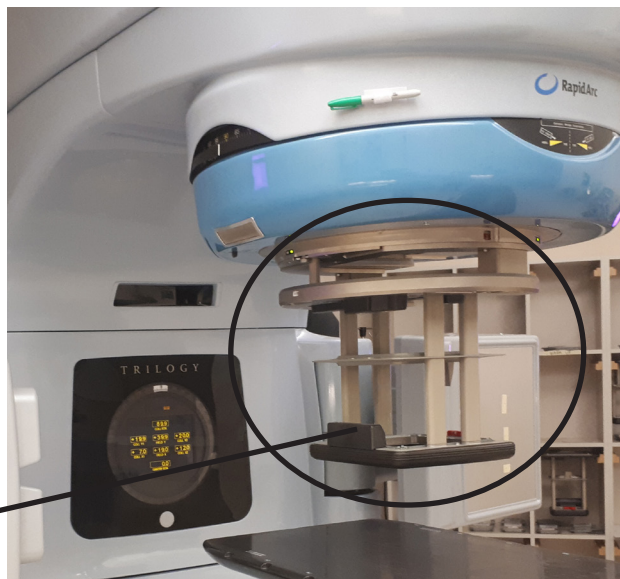
- Is a large machine that rotates around a patient lying on the treatment bed.
- Can create 2 kinds of radiation — electrons or high energy x-rays.



a. Electron Treatment

Radiation treatment using electrons is very common. To treat with electrons, a special piece of equipment called an **applicator** is added to the Linac.

The applicator will come very close to your skin during treatment.



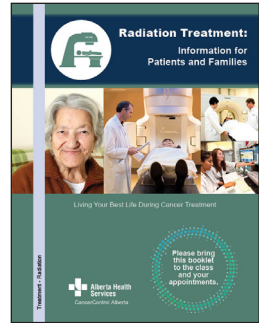
Electron applicator

b. High Energy X-rays Treat

areas that are:

- **Deep** (more than a few centimetres) in your body
- **Large**

See the **Radiation Treatment: Information for Patients and Families** book for more information on this kind of treatment.



E Preparing for Your Treatment

There are many steps to help prepare you for radiation treatment. The next few pages talk about what you can expect.

1) Deciding on the Treatment Area

Your Radiation Oncologist will decide what area of your skin needs treatment. The treatment area will be larger than the tumour or skin condition and is based on the following:

- What is the condition being treated?
- What area of the body is getting treatment?
- Have you had imaging tests like a CT Scan or MRI?
- Have you had surgery for the condition?
- In the past, have you had radiation treatment to the same area?
- Other factors.

2) Clinical Mark-Up

A clinical mark-up is the appointment where your Radiation Oncologist decides the exact area of your body to treat and what shape the area will be.

At the appointment:

- We place you in a comfortable position.
- Your Radiation Oncologist will use a felt marker to draw marks on your skin in the treatment area.
- We will make a copy of these marks — this allows the Radiation Therapist to re-draw the treatment area on your skin if the felt marks wash off.
- We also may create “cut outs” which are specially designed sheets of lead used to protect the skin and tissues that do not need radiation.
- We’ll take some pictures of the markings on your skin and how your body is positioned so we can put you in the exact same position for all your treatment appointments.

3) Treatment Calculation

- Your Radiation Oncologist will prescribe how much radiation you will need, and over how many days.
- The Radiation Therapists and Medical Physicists will do calculations and preparation work before your radiation treatment can begin.

When will my treatments start?

Often your team will need to do some work after the clinical mark-up or CT simulation before treatments can start. Sometimes patients start radiation treatment the same day as the clinical mark-up.

F Your Treatment Appointment

1) General Concerns

When you come for your first radiation treatment, you may be nervous and wonder what is going to happen during your treatment.

It's important to know that:

- You cannot feel the radiation.
- Most treatment appointments take 10 to 15 minutes — most of this time is spent getting you into position.
- Treatments are given Monday to Friday.
- You need to **stay still** for your radiation treatment.



Your first treatment appointment is the longest — for most people it will take about 45-60 minutes.



Should I take my medications while I get radiation treatment?

- Take your regular medications as you normally would, unless you were told not to.
- If needed for your treatment, take anti-nausea, anti-anxiety, or pain medications as instructed.



What should I bring to my appointments?

- This booklet.
- Photo id, health care card and cancer care card.
- Any questions you have written down to ask your health care team.



Can I still have my treatment if I am sick?

It depends, but usually yes. If you are not feeling well, you may be able to see our nurses to find out what is going on. If you have cold or flu-like symptoms, we will ask you to **wear a mask and wash your hands well** when you come for treatment so that others do not get sick too.



Why do I have to spell my last name and say my birth date before every treatment?

Safety is our priority. Your name and birth date helps us confirm that you are the person who is supposed to have that radiation treatment.



Tell your Radiation Therapist before every appointment if you are or might be pregnant.



Protect yourself from falls at the cancer centre:

- Use a wheelchair if you need to — you may have a long walk to the treatment unit.
- Staff can use safety straps to help you stand up and move.
- The treatment bed is high above the floor during your treatment — wait for the therapist to lower the bed and tell you when it is safe to get off.
- Use the grab bars in the washrooms and change rooms to help you sit and stand up.
- Be careful on escalators, or use the elevator instead.

2) What happens at my treatment appointments?

The Radiation Therapists will:

- Bring you into the treatment room.
- Uncover the area of your body being treated.
- Darken the marks that were drawn on your skin.

For each treatment you will be in the same position. **To help position you** the therapists will:

- Use the **marks** drawn on your skin.
- Move your body on the treatment bed.
- Move the radiation treatment machine into position.
- If a “**cut out**” has been made for your treatment, it will be used during your treatment.

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People who are being treated with a Linac machine may have a special pad called **Bolus** placed on the treatment area. This helps deliver the radiation to the surface of the skin.

When you are in position:

- You will hear a beeping noise when the Radiation Therapists leave the treatment room.
- When the radiation is “ON”, you will be alone in the treatment room but the therapists have a camera and microphone so they can see and hear you and talk to you if needed.

You will not feel the radiation



Short term side effects:

- Develop while you are on treatment or shortly after you finish treatment.
- Most side effects will take 2 to 3 weeks to develop before you might notice anything.
- Most side effects you have during treatment will last a few weeks after treatment before getting better.
- Should go away.

Late side effects:

- Develop months, or years after treatment.
- Can be permanent.
- Are less common than short term side effects.

1) Possible Short Term Side Effects

Skin Changes:

Radiation treatment can cause some general skin changes such as:

- redness
- itching
- dryness or flaking
- moistness or blistering
- peeling
- tenderness or soreness

How will I know if I have skin irritation?

There are different levels of skin irritation and different signs and symptoms.

Skin Changes	Mild	Moderate	Severe
Signs and Symptoms	Slightly pink colour Warm Itchy	Darker pink colour Dry with flaking Itchy	Red colour Blistering Weeping (fluid from the wound)

Caring for Your Skin

Everyone is different. There is no way to know how your skin will react. Your Radiation Therapists will monitor your skin for any reactions, and will give you instructions as needed.

How can I prevent or manage my skin irritation?



- Use unscented creams and mild soaps that are gentle on your skin.
- Apply cream after you dry off from a shower, while your skin is still slightly damp — it will help to keep your skin moist and soft.
- Avoid creams, soaps, and other products with alcohol, perfume, lanolin or AHA (Alpha Hydroxy Acids). These can dry or irritate your skin.
- Ask your health care team what products **they recommend**.



- Wash the treated area daily.
- Take short showers or baths in lukewarm, not hot, water.
- Don't try to wash away any skin marks. If they fade, **do not touch them up**.
- Pat your skin dry rather than rubbing it dry.
- Use a soft washcloth and towel.



- If your lips are in the treatment area and are dry, ask your doctor what to use to help keep them moist.



- Do not shave in the treatment area.
- Avoid waxing or hair removal creams in the treatment area — they can irritate your skin.



- Keep your nails clean, cut short, and avoid scratching.



- Avoid using tape or bandages in the area being treated.



- Keep your skin covered up in the sun and wind.
- Wear a hat with a wide brim.
- Avoid sunscreen during radiation treatments in the area being treated.



- Protect your skin by not using heating pads, or ice packs in the treated area.



- Eat a healthy diet.



- Check with your radiation oncologist to see if you can use deodorant (if your armpit is in the treatment area).



- Swimming in pools is fine as long as your skin changes are no more than mild (p. 13). Rinse well after and apply cream.
- Avoid using a hot tub or sauna during treatment.



- Wear loose fitting clothes so they do not rub the treated area.
 - Use a mild detergent to wash clothes.
-

2) Possible Late Side Effects

Sometimes skin changes happen after radiation is finished and can be permanent. These changes may include:

- Thinning of the skin over the treated area.
- Darkening of the skin.
- Skin that becomes smooth, tight and shiny.
- Tiny blood vessels growing close to the surface of the skin (called telangiectasia).

H

Completing Your Treatment

- Follow any directions your health care team gives you including **how to take care of your skin**.
- Call your cancer centre if you have any questions or concerns.
- Let the skin markings fade away. Don't scrub them off.
- Continue to do the skin care until the side effects are gone (usually within 2 to 6 weeks).
- Use sunscreen — we recommend SPF 50 or higher when you go outside.



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Resources For Support

1) Psychosocial Oncology

Can offer counselling to patients and family members to help reduce emotional distress and explore coping techniques. They help with things such as communication, stress, coping with treatment side effects, mood changes, quality of life, body image or loneliness. No referral needed.



For more information or for contact details, look in **Sources of Help**

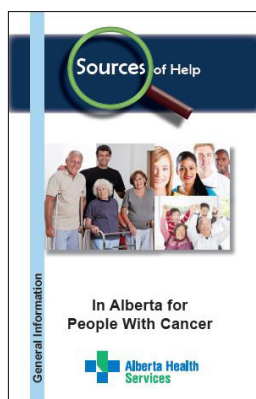
2) Sources of Help

Sources of Help Booklet

A cancer diagnosis and its treatments can be difficult. You may have to navigate through a mix of difficult emotions and decisions. You don't have to go through this experience alone.

There are many resources available in our cancer centres, and communities. This can include talking to experts, activities, accessing government or local programs, going to support groups or education sessions, or speaking to someone who has had the same kind of cancer as you.

Ask for a "**Sources of Help**" booklet at your cancer centre, or visit www.albertahealthservices.ca/cancer/Page9613.aspx





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