

Information for
patients & families

Caring for your skin before, during and after radiation treatment



Symptom management



Cancer Care
Alberta

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Introduction

Taking care of your skin is important before, during and after radiation treatment. Skin changes are a common side effect of treatment. Everyone's skin reacts differently. This guide will help you care for your skin, manage changes and know when to contact your healthcare team.

What is radiation treatment?

Radiation treatment is a **cancer treatment** that uses high energy x-rays to kill cancer cells.

Radiation damages the DNA inside cells. It can affect both healthy cells and cancer cells.

- Healthy cells can repair this damage. This damage can show up as side effects.
- Cancer cells often cannot repair the damage. This causes the cancer cells to die.

Most people get **external beam radiation therapy (EBRT)**. EBRT is given over 1 to 8 weeks, depending on the type of cancer you have and treatment you need.

With EBRT, a machine outside the body directs radiation at the cancer. The radiation passes **through the skin** before it reaches the treatment area.

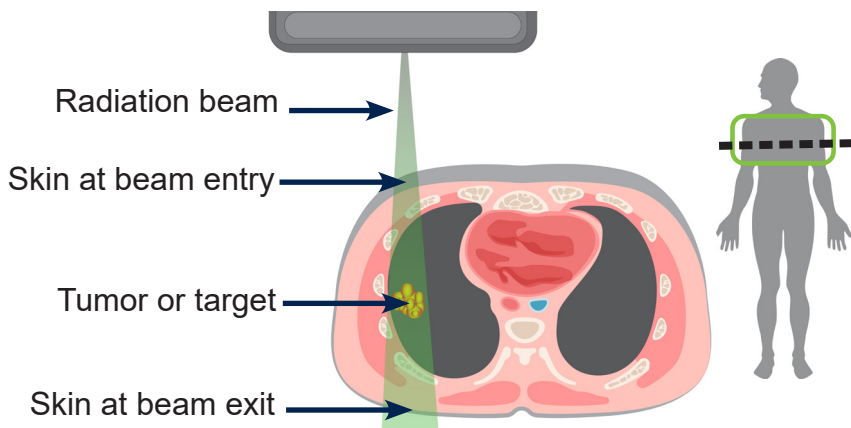


What is radiation dermatitis?

Radiation dermatitis is a common skin reaction that can happen during radiation treatment. Radiation can damage healthy skin cells and cause inflammation. This may make the skin red or darker, swollen, sore or irritated.

Radiation dermatitis only happens in the area of the body that gets radiation treatment. It can affect the places where the radiation beam **enters** the skin and where it **leaves** the skin.

The image below shows a radiation beam passing through the chest to treat a lung tumour. The beam enters the skin on the front of the chest and exits out of the body on the other side of the chest.



This skin reaction may cause:

- Redness or darkening
- Dryness
- Itching
- Tenderness or soreness
- Peeling skin

There are things you and your healthcare team can do to manage these skin changes and keep your skin as healthy as possible during treatment.

Skin reactions change over time

Radiation treatment affects the skin gradually. This means that skin changes usually **build up over time** during treatment, which may last from 1 to 8 weeks. As treatment continues, your skin may become more red, dry, itchy or irritated.

Skin reactions can continue to develop for several weeks after radiation treatment ends. For many people, skin changes are at their worst about **2 to 3 weeks after treatment is finished**.

How severe will the skin reaction be?

Skin reactions are different for everyone. Some people have mild skin changes, while others may have more severe reactions. Several factors can affect how your skin responds to radiation treatment, including:

Your overall health and skin type	Some factors can make radiation dermatitis more likely. These include: having a higher body mass index (BMI), certain skin types, smoking and having diabetes.
The type and location of your cancer	Radiation dermatitis is more common in certain treatment areas including: the head and neck, breast, vulva, rectum and anal area and skin cancer treatment areas. These areas have a higher risk because they may have: • A larger area being treated. • Skin folds (where skin touches skin). • Areas that stay moist or experience rubbing and friction. Tumours that are close to the surface of the skin can also increase the risk of radiation dermatitis. This includes some cancers of the head and neck, breast, skin and soft tissues (sarcomas).

Your radiation treatment plan and the technique used	Some parts of your radiation treatment plan can increase the risk of developing radiation dermatitis. These include: • A higher total dose of radiation. • Treating a larger area of the body. • Using a bolus (a tissue-like material placed on the skin during treatment). • Having chemotherapy or other drug treatments at the same time as radiation, especially treatments that make radiation work more strongly (radiosensitizer). Some radiation techniques can help lower the risk of radiation dermatitis. These include: • Intensity-Modulated Radiation Therapy (IMRT). • Volumetric Modulated Arc Therapy (VMAT). • Hypo-fractionated radiation therapy (larger doses given over fewer treatments).
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Your radiation treatment team carefully plans your treatment to help lower the risk of side effects, including radiation dermatitis.

If you have questions about your risk of skin reactions, talk to your radiation treatment team. They can explain what to expect and help you manage any skin changes during and after treatment.

Learn more about Caring for your skin on **page 8**, Protecting your skin during treatment on **page 11** and Caring for your skin after radiation treatment on **page 18**.

Caring for your skin

There are things you can do to help lower your risk of skin reactions or make them less severe. It can help to start being gentle with your skin 3 to 4 weeks **before** your radiation treatment begins.

Being gentle with your skin by:

- Using a moisturizer.
- Washing your skin gently.
- Protecting your skin.

Use a moisturizer

Moisturizing your skin in the area of your body where you have cancer is important. Apply an unscented cream 2 to 3 times a day. It is okay if you do not know the exact area that will be treated.

Use **unscented** creams that are gentle on your skin, such as CeraVe®, Cetaphil®, Glaxal Base, Vaseline®, or Aquaphor®.



Avoid products that contain:

- Alcohol
- Alpha Hydroxy Acids (AHAs)
- Perfume or fragrance
- Lanolin
- Retinols or retinoic acid

These ingredients can dry out or irritate your skin.

Apply moisturizer after a shower or bath:

- Gently pat your skin dry.
- Apply moisturizer while your skin is still slightly damp.

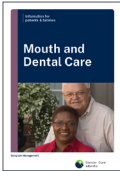
These steps help keep your skin soft and moist.

Lips

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

Learn more about **lip care** in the **Mouth and dental care** book.

bit.ly/ccamouthcare



Where should I apply moisturizer?

If you develop a skin reaction, it will happen only in the area of the body receiving radiation treatment.

Your radiation treatment team can show you where to apply moisturizer if you are unsure.

It's okay to apply moisturizer to skin outside of the treatment area.

Head and neck cancer	Lower face, lips, ears, jaw, neck and shoulders.	
Breast cancer	Breast, chest wall, shoulder and armpit.	
Vulvar or gynecological cancers	Hips, back, lower abdomen, groin, in between skin folds.	
Rectal or anal canal cancer	Hips, back, lower abdomen, groin, in between skin folds and the anus.	

It is okay if you do not know the exact treatment area before radiation starts. Apply moisturizer to the general area of your cancer unless your healthcare team gives you different instructions.

Wash your skin gently

You can start washing your skin gently **4 weeks before** radiation treatment begins. Try to:

- Use **warm water**, not hot water.
- Take short showers or baths.
- Use only water or a **gentle, unscented, pH balanced soap** (such as CeraVe®, Cetaphil®).
- Use a **soft** washcloth and towel.
- **Pat your skin dry** rather than rubbing it dry.
- Apply moisturizer to your skin after you wash



Avoid products that contain:

- Alcohol
- Alpha Hydroxy Acids (AHAs)
- Perfume or fragrance
- Lanolin

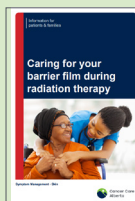
Caring for your skin when using a barrier film, cream or spray

If you have a barrier film, cream or spray on your skin for your radiation treatment, you will need to follow the skin care instructions you were given.

These products help reduce friction and rubbing to the skin.

Read the **Caring for your barrier film during radiation treatment** book from your cancer centre.

bit.ly/barrier_film



Protect your skin during radiation treatment

Shaving and hair removal	Try not to shave the treatment area during radiation treatment. If you need to shave, use an electric razor instead of a blade razor. If you have a beard and are having radiation treatment to your head and neck, it's okay to shave your beard before your simulation scan appointment. Your beard hair may start to fall out during your radiation treatments. This usually starts after 3 weeks of treatment. Do not use wax or use hair removal creams in the treatment area. Avoid using aftershave on the treated skin, as it may cause irritation.
Deodorant	Use deodorant.
Wear loose-fitting clothes	Wear loose-fitting clothing made from natural fibers such as cotton, linen, or silk to reduce friction and irritation. Patients with breast cancer may wear any comfortable bra, including underwire bras. Avoid rubbing, scratching, or massaging the treatment area. Use fragrance-free detergent to wash clothes.
Stay hydrated	Drink enough fluids to keep yourself hydrated. Most adults need 9 to 12 cups (3 litres) of fluid each day. Drink enough fluid during the day to keep your pee light yellow.
Nails	Keep your nails clean, cut short and avoid scratching.

Nutrition	Visit ahs.ca/nutritionHandouts Read about Nutrition during and after treatment in the Living well with cancer book. 
Sun exposure	Wear protective clothing and hats. Avoid sunscreen during radiation treatments in the area being treated. Avoid tanning beds.
Bandages	Avoid using tape or bandages in the area being treated.
Hot, cold and wind	Avoid using heating pads or ice packs in the treated area. Cover your skin using hats, scarves, or clothing. Avoid using a hot tub, steam room or sauna during treatment.
Swimming	Swimming in pools is fine as long as your skin changes are mild, or unless you have been told not to swim. Rinse well after and apply moisturizer.
Scar massage	If you are doing scar massage after having surgery, stop massaging until after your skin has healed from radiation treatment.

Managing mild to moderate skin reactions during radiation treatment

What is a mild, moderate and severe skin reaction?

Skin reactions can look different from person to person. They might be harder to see on people with darker skin tones.

During radiation treatment, pay attention to how your skin **looks and feels**. Tell your healthcare team if you notice any changes.

Skin reaction	You might notice your skin:
Mild	Becomes a little darker or red Feels warm Feels itchy
Moderate	Becomes darker or redder Becomes swollen Feels dry or starts to flake Feels itchy
Severe	Becomes much darker Develops blisters Leaks fluid (weeps)

If you develop a **mild or moderate skin reaction**, there are things you can do to help reduce your discomfort.

Radiation skin reactions are different from burns

A radiation skin reaction is not the same as a burn caused by touching something hot or by a fire.



Do **not** use burn creams, burn dressings, or bandages that contain metals, unless your radiation treatment team tells you to use them.

These products can make your skin reaction worse during radiation treatment.

Saline compress (cool temperature)

A **saline compress** is a clean cloth or gauze soaked in salt water (normal saline) and placed on skin that is irritated or has open areas from radiation treatment.

A saline compress can help:

- Soothe pain and discomfort.
- Reduce swelling.
- Reduce itching.
- Clean open areas of skin.
- Lower the chance of developing an infection.

How to use a saline compress

1. Moisten clean gauze with **normal saline solution** at room temperature or cool temperature.
2. Place the moist gauze on the affected skin for **10 to 15 minutes**.
3. If the gauze starts to dry out, add more saline before removing it from your skin. The gauze should not stick to your skin, or hurt when you remove it.
4. Gently pat the surrounding skin dry.
5. Apply any dressings or treatments recommended by your healthcare team.
6. Repeat up to **4 times a day**, or as needed.

If you have questions about using a saline compress, talk to your healthcare team.

Homemade saltwater mix (saline)

- Add 1 teaspoon salt to 2 cups water and boil.
- Cool to room temperature before using.
- Homemade saline will last 2 days (48 hours) in the fridge.

Applying a water-based dressing

If you develop a **moderate or severe skin reaction** during radiation treatment, talk to your healthcare team. They may recommend a **water-based dressing** and can show you how to apply it.

A water-based dressing can help:

- Protect damaged skin.
- Keep the skin moist.
- Reduce discomfort.
- Support healing.

Always follow the instructions from your healthcare team when applying and changing your dressing.

Some areas of the body may need different types of skin care or dressings. Your healthcare team will recommend the best option for your treatment area.

Ask for the **Making a water-based dressing** handout from your cancer centre.

bit.ly/water_based



Sitz baths

A sitz bath is a shallow soak in warm water that covers your hips and buttocks. You can also gently clean the area using a handheld shower spray or squeeze bottle filled with water.

If you have a skin reaction in the pelvic, groin or anal area, a sitz bath can help:

- Gently clean the skin.
- Ease pain, itching or burning.
- Improve blood flow and support healing.

How to take a sitz bath:

1. Add **warm water (40 to 43°C)** to a clean bathtub or sitz bath basin.
2. Do **not** use hot water. Hot water can dry out and irritate your skin.
3. Do **not** add bath oils, bubble bath, or other products to the water.
4. Soak the affected area for **10 to 15 minutes**.
5. Gently **pat** the area dry with a soft towel or let it air dry.
6. If recommended by your healthcare team, apply a water-based dressing after the sitz bath.

You can take a sitz bath **up to 4 times a day** and/or **after each poop (bowel movement)**.

Sitting cushion

Try using a special cushion or 'doughnut' shaped support to help you feel more comfortable sitting.

Managing moderate to severe skin reactions during radiation treatment

If radiation causes a **moderate to severe** skin reaction, your healthcare team will help you care for your skin.

A moderate to severe skin reaction might include:

- Bright red or darkened skin
- Skin that is wet, peeling or leaking fluid
- Swelling
- Pain
- Itching
- Tightness or a pulling feeling in the skin
- An unusual smell coming from the skin
- Burning
- Tenderness

Goals of treatment:

- Protect your skin and help it heal.
- Keep your skin moist when possible.
- Reduce pain and discomfort.
- Prevent more skin damage.
- Lower the risk of infection.

How your healthcare team can help

Your healthcare team might recommend:

- Special creams or ointments.
- Hydrogels or other dressings.
- Prescription medicines.
- Regular skin checks and follow-up appointments.

Talk to your healthcare team if your skin reaction gets worse or becomes hard to manage. They can recommend the best treatment for your skin and help keep you as comfortable as possible.

Caring for your skin after radiation treatment

The first few weeks after treatment

Your skin may continue reacting to radiation treatment **for several weeks** after your treatment ends. Keep caring for your skin until it is healed.

- Keep moisturizing as recommended by your healthcare team.
- Wash your skin gently.
- Protect your skin.
- Stay hydrated, and eat healthy foods. Good nutrition and staying hydrated can help your body heal.



If you have a severe skin reaction, your healthcare team may continue to see you after your treatment ends. They will monitor your healing and provide support.



If your healthcare team gave you stretches or exercises, keep doing them. This can help prevent your skin and tissues from becoming tight. This is especially important if you have **head and neck cancer** or **breast cancer**.



If you have a surgical scar from your cancer surgery (such as head and neck or breast cancer), you can start scar massage once your skin has healed and your healthcare team says it is safe.

Long-term care for your skin after radiation

Your skin might stay sensitive and fragile after radiation. The treated area may also burn more easily in the sun.

Protect your skin from the sun

- Wear clothing that covers the treated area.
- Wear a wide brim hat when you are outdoors.
- Apply broad-spectrum sunscreen (UVA & UVB) SPF 30 or higher to the treated area.
- Consider wearing clothing with built-in sun protection.

Care for your nails

- Keep your nails clean.
- Keep your nails trimmed short.
- Avoid scratching your skin.

These steps can help protect your skin, reduce irritation and support healthy skin after radiation treatment.



Late or long-term skin side effects

Some skin changes can appear months or even years after radiation treatment ends. These are called **long-term side effects**.

Long-term skin changes can last a long time. Some may be permanent.

Because these changes can happen long after treatment, you may need to talk to your primary care provider (family doctor or nurse practitioner) first if they concern you or affect your daily life.

There are treatments and other ways to help manage these side effects and keep you comfortable.

Skin colour changes

The skin in the treatment area may change colour after radiation treatment. Your skin may:

- Become **darker** than usual.
- Become **lighter** or lose some of its colour.

These changes can happen during or after treatment ends. They might improve over time, but some skin colour changes can last a long time or be permanent.

If you are concerned about changes to your skin colour, talk to your healthcare provider.

Skin and tissue tightening (radiation fibrosis)

Radiation can cause the skin and tissues in the treated area to become tight or firm. This is called **fibrosis**.

Fibrosis can develop months or years after radiation treatment. It can affect the skin, muscles and other tissues in the treatment area.

Signs and symptoms of fibrosis may include:

- A feeling of tightness or pulling in the skin.
- Skin that does not stretch as easily as before.
- Stiffness in the treated area.
- Reduced movement or flexibility in nearby joints, such as the hips after pelvic radiation.
- Hardening or thickening of the skin and tissues.

If you notice these changes, talk to your healthcare provider. Treatments, exercises and stretches may help improve movement and reduce discomfort.



Visible blood vessels (telangiectasia)

Telangiectasia is the appearance of small, visible blood vessels near the surface of the skin. These blood vessels are sometimes called **spider veins**.

Telangiectasia can develop in areas that received radiation treatment. It may appear months or years after treatment ends.

Radiation can damage small blood vessels in the skin. As a result, some blood vessels stay enlarged and become more visible.

Telangiectasia may:

- Look like small red, pink, or purple lines on the skin.
- Appear in the area that received radiation treatment.
- Develop months or years after treatment.

These blood vessels are usually not harmful, but some people find them bothersome because of how they look.

If you notice changes to your skin that concern you, talk to your healthcare provider.

My skin care notes

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The information is to be updated every 3 years, or as new clinical evidence emerges. If there are any concerns or updates with this information, please email cancer.patiented@cancercarealberta.ca.

Important things to remember:



Moisturize your skin at least 2 times a day before, during and after treatment



Wash gently using warm water and pat your skin dry



Protect your skin from the sun, wind and cold



Talk to your healthcare team if you need help managing your skin

For other Cancer Care Alberta
resources, visit

cancercarealberta.ca

