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**Practice Guideline:**                      **Symptom Management**

**Part 3. Skin Health Promotion: Health Promotion Interventions**

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*Part 3 of a 5 Part Series:*

*Evidence Based Recommendations for the Assessment and Management of Radiation-Induced Skin Toxicities in Breast Cancer*

Effective Date: January 2018

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## Preface

At CancerCare Manitoba (CCMB) the Clinical Practice Guidelines Initiative seeks to improve patient outcomes in terms of survival and quality of life through the development, dissemination, implementation, and evaluation of guidelines for the management of common clinical scenarios encountered by cancer patients throughout the province.

This practice guideline was created through the collective efforts of a dedicated group of front-line staff, guideline methodologists, and researchers from: CCMB, University of Manitoba's Faculty of Nursing, Queen's University School of Nursing in Kingston Ontario, and the Canadian Guideline Adaptation Study Group—an initiative of the Canadian Partnership Against Cancer Guidelines Advisory Group.

The content of this guideline was in large part adapted from guidelines produced by: the British Columbia Cancer Agency (2006), the Cancer Care Ontario Program in Evidence-Based Care (2005), and the Winnipeg Regional Health Authority (WRHA, 2005).

The CCMB Department of Nursing and Radiation Oncology Program will review and update this document once every 3 years, unless emerging evidence from scientific research, or practice issues requiring urgent resolution dictate a need for a more immediate change in content.

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## Purpose

This document is intended as a guide to facilitate a shared, evidence-based approach to the clinical assessment and management of radiation-induced skin toxicities in adults with breast cancer.

For this purpose, it may be used by qualified and licensed healthcare practitioners involved with the care of oncology patients, which may include (but is not limited to): physicians, surgeons, nurses, radiation therapists, pharmacists, dietitians and psychosocial oncology professionals at CancerCare Manitoba's tertiary sites in Winnipeg, the Western Manitoba Cancer Centre in Brandon, and CCMB Community Oncology Program sites throughout the province.

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## Disclaimer

This guideline document should be viewed as an evidence-based practice tool, and as such, it does not represent an exhaustive text on the subject of radiation-induced skin toxicities. Clinicians are advised to use the guideline in their practice concomitantly with information from other evidence-based sources.

Use of this guideline in any setting should not preclude use of the practitioner's independent judgment, nor should it replace consultation with the appropriate oncology specialty when indicated (e.g. radiation or medical oncology, nursing, pharmacy, radiation therapy, psychosocial oncology, spiritual care, nutritional therapy). Clinicians are expected to apply the recommendations within the boundaries of professional standards and scope of practice, and according to their personal level of training and experience.

It is the responsibility of the practitioner to develop an individualized disease or symptom management plan for each patient under his/her care, and ideally this should take place within the context of an inter-professional team. The needs and preferences of the patient and the family should always be reflected in the plan of care.

## Skin Health Promotion: Health Promotion Interventions – Guideline Recommendations

Recommendations for Skin Health Promotion are divided into these categories: promote skin hygiene, promotion of comfort, preventing infections, protection from trauma, promote skin health, protection from the environment.

Based on the panel’s review of the Cancer Care Ontario (CCO), WRHA and BC Cancer Agency (BCCA) guidelines, and the supporting literature for these documents, the recommendations for health promotion in adult breast cancer patients receiving radiotherapy are as follows:

**Table 1. Skin Health Promotion: Health Promotion Interventions**  
**Promote Skin Hygiene**

Recommendations	Rationale	Level of Evidence	Clinical Considerations/Comments
Basic skin care health promotion recommendations should begin on the first day of radiation treatment	Maintains skin health <sup>1,2</sup>	<i>IV</i>	Patient education on basic skin care begins with the radiation clinic nurse and is reinforced by radiation therapists ( <i>See Appendices 2 to 5</i> ). Printed patient education sheets to be given by clinic nurse prior to start of treatment. Documentation of patient education performed by nurse and radiation therapists should be entered in electronic record (ARIA®).
Short gentle low pressure showers or baths with lukewarm water (avoiding hot or cold). Mild, unscented soap may be used gently, if desired. If radiation skin reaction occurs, refer to appropriate section for hygiene practices recommended	Reduction in severity of skin reactions with washing in breast cancer patients <sup>1-5</sup>	<i>IIa-IV</i>	One study compares the irritant properties of soaps <sup>4</sup> , however, there is no evidence to suggest that one type of mild soap is preferable to another. <b>Level of Evidence IIa</b> Gentle washing involves using lukewarm water and taking care not to scrub skin. <sup>2</sup> Mild soap is defined as a pH-balanced, non-scented product that does not contain lanolin. <sup>2</sup> Skin washing practices should not be restricted for patients receiving radiation therapy as this may lead to psychosocial distress. <sup>3</sup>
Avoid scrubbing the skin	To avoid skin irritation <sup>2,3</sup>	<i>IV</i>	
Pat skin dry. Do not rub	To avoid skin irritation <sup>1,2,5</sup>	<i>IV</i>	
Avoid using wash cloth in treatment areas	To avoid irritation and risk of infection <sup>1</sup>	<i>IV</i>	
Deodorants and antiperspirants can be used on intact skin. Stop use if a skin reaction develops in axilla area <sup>2,6-9</sup>	There is no evidence of increase in skin reaction with use of deodorants* (including aluminum-based)  <i>*Refers to deodorants and antiperspirants</i>	<i>Ia-IV</i>	(2017 Update) It is recommended on treatment days that patients:  Do not freshly apply deodorant or antiperspirant (in the treatment field) until after the treatment. (See Guideline Section III, Day Evidence, pages 11-12)

**Table 2. Skin Health Promotion: Health Promotion Interventions  
Promote Comfort**

Recommendations	Rationale	Level of Evidence	Clinical Considerations/Comments
Wear loose fitting non-binding clothing (e.g., soft breathable fabric like cotton)	To promote comfort and prevent skin irritation. Cotton is a breathable fabric <sup>1,3</sup>	<i>IV</i>	

**Table 3. Skin Health Promotion: Health Promotion Interventions  
Prevent Infections**

Recommendations	Rationale	Level of Evidence	Clinical Considerations/Comments
Good hand washing <sup>1</sup>	Basic principle of infection control	<i>IV</i>	
Avoid using talcum, baby powder and cornstarch especially in treatment area	Talcum, baby powder and cornstarch do not moisturize. These may promote fungal growth and secondary infections especially in axillae and breast folds where skin is moist <sup>1</sup>	<i>IV</i>	(2017 Update) Patients may be advised to wear sports bra with wide band. Some patients prefer to wear no bra.

**Table 4. Skin Health Promotion: Health Promotion Interventions  
Protect from Trauma**

Recommendations	Rationale	Level of Evidence	Clinical Considerations/Comments
Avoid products containing alcohol, alpha hydroxy acid, perfumes or other drying agents in treatment area	Can result in drying effect and increase skin reactions <sup>1,3</sup>	<b>IV</b>	
Avoid use of petroleum based products	Hydrophobic water repelling products such as petroleum do not moisturize and can have bolus effect <sup>1</sup>	<b>IV</b>	
Skin in treatment field should be clean and product-free at time of treatment	To minimize potential for bolus and irritant effect <sup>1,3</sup>	<b>IV</b>	Original panel recommendation was to wash off all products that have been applied to the treatment area prior to treatment; but practice inconsistencies were identified. Washing treatment field just prior to treatment may not be advisable.  (2017 Update) It is recommended on treatment days that patients: Do not freshly apply moisturizers to skin (in the treatment field) within a 2-hour period before treatment, <i>and</i> Do not freshly apply deodorant or antiperspirant (in the treatment field) until after the treatment.  (See Guideline Section III, Key Evidence, page 12)
Avoid tape or adhesive bandages in treatment field.	To avoid possible skin trauma	<b>IV</b>	
Avoid scratching	Avoid trauma to skin, can result in infections <sup>1</sup>	<b>IV</b>	
Avoid wearing jewellery over treatment area	Avoid trauma to skin <sup>1</sup> <i>Panel consensus decision</i>	<b>IV</b>	Clinical experience has found that wearing of jewellery over treatment area can result in skin reactions.
Protect from temperature extremes in treatment area (avoid ice packs, heating pads, hot water bottles)	Avoid thermal injury to skin <sup>1,5</sup>	<b>IV</b>	
If the treated skin area is intact, swimming in pools or lakes is permissible. After swimming remove swimsuit that is in contact with the treated area and rinse the chlorine from the skin	To reduce exposure to chlorinated water, products, and chemicals that may have a drying effect on skin or lead to irritation <sup>1,3,5,11</sup>	<b>IV</b>	If erythema, dry desquamation or moist desquamation present, follow directions regarding swimming as indicated for management of acute RT-induced skin toxicities (Part 4 of this guideline series).
Avoid hot tubs and saunas, especially if there is a skin reaction	Hot tubs and saunas expose skin to risk of chemical and heat irritation and can increase risk of infections in non-intact skin <sup>1,3</sup>	<b>IV</b>	
Avoid shaving (or use an electric shaver instead) in treatment area	To avoid skin irritation from friction and prevent cuts which increase the risk of infection <sup>1,3,5</sup>	<b>IV</b>	

**Table 5. Skin Health Promotion: Health Promotion Interventions  
Promote Skin Health**

Recommendations	Rationale	Level of Evidence	Clinical Considerations/Comments
Ensure adequate oral hydration. Females should drink approximately 2.2 litres (9 cups) and males 3 litres (13 cups) per day limiting caffeine containing beverages to 237-300 mL or 400 mg of caffeine per day	Good hydration promotes healthy skin <sup>12,13</sup>	<b>IV</b>	
Follow Canada's Food Guide for good nutrition. Ensure adequate protein intake	Being well nourished promotes healing and helps the body fight infection. Protein is essential for healing and provides the building blocks to new cells and tissues <sup>14,15</sup>	<b>IV</b>	Sources of protein are included in the Meat and Alternatives, and Milk and Alternatives food groups in Canada's Food Guide.
Multivitamin/mineral supplement will ensure the recommended intakes are achieved	To ensure recommended intakes are achieved <sup>12,15</sup>	<b>IV</b>	
It is important that patients with diabetes maintain good blood glucose control <sup>15</sup>	Poorly controlled diabetes can affect healing and increase the risk of infections.	<b>IV</b>	
For intact skin use aqueous/ hydrophilic cream ( <i>plain, non-scented, lanolin free, hydrophilic cream</i> ) at least 2-3 x /day throughout treatment. For example, Glaxal Base® cream. Use moisturizing cream as long as skin is intact, discontinue use if skin becomes open or breaks down	For application at start of treatment. Dry skin is more vulnerable to trauma insults. Aqueous/hydrophilic cream attracts and traps moisture at skin surface to increase skins moisture and maintain skin pliability. <sup>1,2</sup> For treatment of dry desquamation. <sup>1,2</sup> For frequency of application. <sup>1,2,3</sup>	<b>IV</b>	
Aloe vera gel should not be used to provide skin moisture. Patient may choose to use if skin is intact for the purpose of cooling and soothing only	Aloe vera gel has no moisturizing effect, but may provide some relief by cooling and soothing affected area <sup>2,16</sup>	<b>Ib, IV</b>	
Avoid smoking	Interferes with healing <sup>1,10</sup>	<b>IV</b>	

**Table 6. Skin Health Promotion: Health Promotion Interventions  
Protect from Environment**

Recommendations	Rationale	Level of Evidence	Clinical Considerations/Comments
Avoid tanning lamps/salons	Standard skin cancer prevention recommendations for all persons <sup>1</sup>	<b>IV</b>	
Avoid exposing the area being treated to the sun. If exposure to the sun cannot be prevented and skin is intact use sunscreen (SPF 30 or higher). Remove sunscreen completely before radiation treatment as may contain metals that could cause a reaction	Standard skin cancer prevention recommendations for all persons recommend sunscreen with SPF 30 with both UVA and UVB protection. As treated skin is more sun sensitive recommend SPF 30 or higher be used <sup>1,3,18</sup> . "Destruction of melanocytes in the irradiated dermis and slower melanin production following irradiation reduce the skin's ability to protect itself from UV rays" <sup>18</sup>	<b>IV</b>	Apply sunscreen liberally to exposed skin 15-30 minutes before going out in the sun and reapply 15-30 minutes after sun exposure begins. Should also reapply sunscreen after vigorous activity that could remove product, such as swimming, towelling or excessive sweating and rubbing. <sup>17</sup>

## References

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## CancerCare Manitoba

### Symptom Management Recommendations

#### *Skin Health Promotion: Health Promotion Interventions*

##### **I. Background**

Skin that is healthy and hydrated is likely to better tolerate the effects of radiation treatment. Good skin care practices can help to promote healthy skin. Numerous interventions have been evaluated for the prevention of radiation induced skin reactions. From currently available literature, promotion of healthy skin is the best course of action for optimizing tolerability of radiation treatments.

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##### **Clinical Question**

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**What basic skin care practices should be used by adult breast cancer patients undergoing radiation therapy?**

## II. Key Evidence

The CCO, Winnipeg Regional Health Authority (WRHA) and BCCA guidelines were the primary source documents for the development of these recommendations.<sup>1-3</sup>

1. The panel agreed to accept all recommendations related to Health Promotion offered in the CCO guideline “The Preventions and Management of Acute Skin Reactions Related to Radiation Therapy: A Clinical Practice Guideline”.
2. Levels of evidence (*Appendix 1*) for skin health promotion recommendations varied. The majority of recommendations were ranked as Level IV evidence, but were found acceptable if accompanied by sound clinical rationale.
3. All of the guidelines reviewed recommended that skin washing not be restricted. **Level of Evidence Ib**
4. Limited evidence was found examining the efficacy of calendula ointment for the prevention of skin reactions. One trial examined calendula versus trolamine and reported that calendula ointment may decrease the occurrence of Grade 2 radiation dermatitis in breast cancer patients.<sup>4</sup> The strength of calendula ointment formulation used in the trial was not clearly indicated, thus making it difficult to find a comparable product commercially available in Canada. Additionally, the trial reported patient difficulty with ointment application. No other trials were found comparing calendula ointment to placebo.

No evidence was found to support or refute the use of any other topical agents for the prevention of skin reactions.

The panel decided to recommend interventions for promotion of healthy skin, rather than recommend specific products for prevention of radiation skin toxicity. The following statements, from the CCO guideline, were endorsed by the panel to summarize our recommendations for skin health promotion:

- “There is insufficient evidence to support or refute other specific topical agents (i.e. corticosteroids, sucralfate cream, Biafine, ascorbic acid, aloe vera, chamomile cream, almond ointment, polymer adhesive skin sealant) for the prevention of acute skin reaction.”<sup>1</sup>
  - “There is insufficient evidence to support or refute specific oral agents (i.e. enzymes, sucralfate) or intravenous agents (i.e. amifostine) for the prevention of acute skin reaction. The side effects of these agents were more oppressive than those reported in the trials assessing topical agents, and therefore the benefits do not outweigh the risks.”<sup>1</sup>
5. Previous practice of advising patients against the use of deodorant/antiperspirant was due to concerns about the potential for radiation bolus effect. Anecdotally, restricting use of deodorants/antiperspirants has been shown to cause psychosocial distress for some patients and has limited their social interaction. One trial examining the use of topical agents prior to external beam radiation concluded that “no large increase in surface dose was detected with normal application of the products. However, the possibility exists that an increase in skin reaction may occur owing to chemical irritants in the applied product.”<sup>5</sup> A recent randomized control trial of 198 breast cancer patients receiving external beam radiotherapy after surgery found no significant increase in the occurrence of skin reaction when using an aluminum-based antiperspirant compared to a standard-wash only regimen.<sup>6</sup>

In response to these and other findings, the authors recommend that women with breast cancer should decide for themselves whether to use antiperspirant, deodorant or a standard-wash only regimen, during external beam radiotherapy.<sup>6</sup> A review of current evidence supports recommendations that deodorants and antiperspirants may be applied on intact skin and continued to be used throughout radiation treatment.<sup>7-9</sup>

The panel decision was to support patients' use of deodorants/antiperspirants on intact skin, but to discontinue use of deodorants and antiperspirants in the event of a skin reaction. The panel originally also recommended that deodorants and antiperspirants should be washed off prior to treatment. However, differing practice among multidisciplinary team members as to advising patients in this regard indicated need for further discussion to reach consensus. (See recommendations in #7, below)

**Level of Evidence Ib-IIa**

6. In this guideline, aqueous/hydrophilic cream has been recommended as a topical application from the start of treatment in this guideline (**Level of Evidence IV**). The panel decided that although this may likely not prevent radiation skin toxicity, it could promote hydrated, healthy skin which could lead to better toleration of the effects of radiation. Clinical experience of the panel had shown the potential for patients to develop allergic skin reactions to various commercial products.

The panel decided that a non-medicated, fragrance-free hydrophilic cream (e.g. Glaxal Base®) was the optimal product to recommend. However, should a patient have other aqueous/hydrophilic cream products at home, these could be used first to minimize cost to the patient (provided that no allergic reaction occurs).

**Level of Evidence Ib**

7. It has long been recommended by some clinicians at our centre that all products be washed off the skin in treatment area prior to radiation. However, the rationale for this practice has not been studied. Generally accepted theory is that washing off skin products prior to radiation treatment will help prevent radiation reactions to any product ingredients with potential to cause local irritation. Originally, panel consensus was to recommend that this practice continue.

However, desire to clarify information being provided to patients led to further discussion about the practice. Following consult with CCMB Dermatology and multidisciplinary discussion, consensus (2017) is based on the concept that skin in the radiation treatment field should be clean and product-free at time of treatment, but washing the treatment field just prior to treatment may not be advisable.

Therefore, it is recommended on treatment days that patients:

- Do not freshly apply moisturizers to skin (in the treatment field) within a 2-hour period before treatment, *and*
- Do not freshly apply deodorant or antiperspirant (in the treatment field) until after the treatment

**Level of Evidence IV**

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## References

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### III. Discussion

- A. Inconsistencies in information provided to patients from various practitioners can lead to patients receiving conflicting or misleading information, which could result in patient frustration, misunderstanding, and potential injury or harm. Although many recommendations for Skin Health Promotion are supported by Level IV evidence, the panel felt it was important to consider this body of evidence and make recommendations to promote a common approach and provide consistent information to patients.
- B. It is recommended that the treatment area be protected from the sun by covering with clothing. However, it was recognized that this may not always be possible. The panel decided that, as long as the skin was intact, a sunscreen with SPF 30 should be worn during activities where skin may be exposed, such as with swimming. SPF 30 is recommended by Canadian Dermatology Association for all persons for application on intact skin only and to cover exposed skin with clothing.<sup>1</sup> Because skin that has been exposed to radiation treatment is known to be more sensitive to sun exposure, the panel felt that sunscreen with SPF 30 or higher should be recommended. The panel also recommended that sunscreen be removed following completion of sun exposure to minimize chemical irritant exposure.

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***Level of Evidence IV***

## IV. Clinical Considerations

- Patient education on basic skin care begins with the radiation clinic nurse prior to starting treatment and is reinforced by radiation therapists during treatment (*See: Appendices 2 to 5*)
- Patients should receive printed information on Health Promotion Interventions and have an opportunity to review the information with their healthcare team

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## V. Appendices

### Appendix 1 – Levels of Evidence

Levels of Evidence	
<b>Ia</b>	Evidence obtained from meta-analysis of randomised controlled trials
<b>Ib</b>	Evidence obtained from at least one randomised controlled trial
<b>IIa</b>	Evidence obtained from at least one well-designed controlled study without randomisation
<b>IIb</b>	Evidence obtained from at least one other type of well-designed, quasi- experimental study
<b>III</b>	Evidence obtained from well-designed, non-experimental descriptive studies, such as comparative studies, correlation studies and case studies
<b>IV</b>	Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities

British Committee for Standards in Haematology 2007 <http://www.bcsghguidelines.com>

### References

1. Shekelle PG, Woolf SH, Eccles M, et al. Clinical guidelines: Developing guidelines. *Brit Med J* 1999;318(7183):593

## Appendix 2 – Basic Skin Care

### Radiation Therapy Breast or Chestwall — Basic Skin Care



There are things you can do every day to take care of your skin during radiation.

You should start the following recommendations on the first day of your treatment and continue them until you are finished radiation and completely healed.

#### Promote Skin Hygiene — *keep radiated skin clean*

- Short, gentle, low pressure showers or baths with lukewarm Water.
- Mild soap may be used gently, if desired.
- Do not scrub the skin in the treatment area.
- Pat skin dry. Do not rub.
- Do not use a wash cloth in treatment areas.
- Deodorants and antiperspirants can be used on intact skin. Patients may continue to use deodorants and antiperspirants (includes aluminum based) if they wish. There is no evidence that skin reactions will be any worse. **Stop use if a skin reaction develops.**
- Do not freshly apply deodorant/antiperspirant on the day of your treatment until after treatment.

#### Promote Comfort

- Wear loose fitting non-binding clothing (e.g. soft breathable fabric like cotton; sports bra with wide band).

#### Prevent Infections

- Good hand washing.
- Do not use talcum, baby powder or comstarch in treatment areas.

#### Protect from the Skin from Injury

- Do not use tape or bandages in treatment field.
- Do not scratch (e.g. keep your nails short).
- Do not wear jewelry over treatment area.
- Avoid using ice packs, heating pads and hot water bottles on the treatment area. You may not be able to feel extreme temperature changes in the radiated areas and you may cause an injury.
- Do not swim in lakes or pools if you have a radiation skin reaction. If the treatment area is intact, swimming in pools or lakes is permissible. After swimming immediately remove swimsuit and rinse the skin.
- Do not use hot tubs and saunas.
- Do not shave in treatment area (if necessary use an electric shaver instead).
- Do not use products containing alcohol, alpha hydroxyl acids, perfumes or other drying agents in treatment areas.
- Do not use petroleum based products.
- Do not freshly apply moisturizers within a two hour period before treatment.
- Do not use tanning lamps/salons.
- Avoid vigorous rubbing in the treatment area.

Reminder!

Do not freshly apply moisturizer within a **two hour period** before treatment.

Do not freshly apply deodorant/antiperspirant **on the day of your treatment until after treatment.**



## Appendix 3 – Erythema and Dry Desquamation

### Radiation Therapy Breast or Chestwall — Skin Changes/Reactions: Erythema and Dry Desquamation



**Erythema** — the radiated skin becomes pink to red in colour. There may also be mild swelling, burning, itching and pain. Usually occurs 2—3 weeks after starting treatment.

**Dry Desquamation** — dryness of the radiated skin, itching, scaling, flaking and peeling. These skin changes cause a break in the skin. Open skin can increase the risk of infection.

Continue to follow the guidelines laid out on the Radiation Therapy Breast or Chestwall — Basic Skin Care sheet that you were given. In addition:

**Promote Skin Hygiene** — *keep radiated skin clean*

- Continue to bath or shower if possible using recommended soaps, as tolerated.
- If you take baths, do not soak the open skin under the water. This water is dirty and can cause an infection.

Reminder!

Only use deodorants and antiperspirants on intact skin.

**STOP** use if you develop a skin reaction.

Do not freshly apply deodorant/antiperspirant on the day of your treatment until after treatment.

- Deodorants and antiperspirants can be used on intact skin. Patients may continue to use deodorants and/or antiperspirants if they wish. There is no evidence that skin reactions will be any worse. **Stop use if a skin reaction develops.**
- Do not freshly apply deodorant/antiperspirant on the day of your treatment until after treatment.

**Itchy Skin**

- Talk to your Radiation Oncology Team about hydrocortisone cream and/or an oral antihistamine to relieve itchiness.

**Promote Comfort**

- Medications are available to treat pain. Talk to your Radiation Oncology Team.

**Prevent Infections**

- Every day check for signs of infection (fever, odour, discharge, swelling or pain). Contact your Radiation Oncology Team if you have any signs of infection.

**Protect the Skin from Injury**

- Open skin is vulnerable to infection. Do not swim in pools or lakes. Chlorine can irritate and dry the skin. Lakes can contribute to skin infections.
- Do not freshly apply moisturizers within a two hour period before treatment.

**Protect from Environment**

- Continue to follow basic skin care guidelines.

**Keep Your Skin Healthy**

- Continue to follow basic skin care guidelines.

Important

If you notice that you have Erythema or Dry Desquamation talk to a member of your Radiation Oncology Team.

Reminder!

Do not freshly apply moisturizer within a two hour period before treatment.

## Appendix 4 – Moist Desquamation

### Radiation Therapy Breast or Chestwall — Skin Changes: Moist Desquamation



**Moist Desquamation** is when the skin peels, blisters and has clear yellow drainage. Open skin can be painful because the nerves in the skin are not protected. This can be worse in areas where the skin touches other skin. For example: in the armpit and side of chest being rubbed by the arm with movement.



If you notice that you have moist desquamation talk to a member of your Radiation Oncology Team. The area usually needs to have a dressing put on to keep it clean and prevent infection.

Continue to follow the guidelines laid out on the Radiation Therapy Breast or Chestwall — Basic Skin Care and Radiation Therapy Breast or Chestwall — Skin Changes: Erythema, Itch and Dry Desquamation sheets that you were given. In addition:

#### Promote Skin Hygiene — *keep radiated skin clean*

- Do not use soap on open skin.
- Do not use deodorants and antiperspirants on open skin.

#### Promote Comfort

- Medications are available to treat pain. Talk to your oncology doctor or nurse.
- Talk to your radiation nurse who will help you with dressings if needed.

#### Prevent Infections

- Every day check for signs of infection (fever, odour, discharge, swelling or pain). Contact your Radiation Oncology Team if you have any signs of infection.

#### Protect the Skin from Injury

- Continue to follow basic skin care guidelines.
- Open skin is vulnerable to infection. Do not swim in pools or lakes. Chlorine can irritate and dry the skin. Lakes can contribute to skin infections.

#### Protect from Environment

- Continue to follow basic skin care guidelines.

#### Keep Your Skin Healthy

- Continue to follow basic skin care guidelines.
- Do not use moisturizer on open skin.



You should check daily for infections.

#### Signs of infection are:

- Fever
- Odor
- Discharge
- Swelling or pain

## Appendix 5 – Late Skin Effects

### Caring For Yourself After Radiation



It is important to continue to follow the instructions given to you on the Radiation Therapy Breast or Chestwall — Basic Skin Care Information sheet; and any other additional sheets you may have been given (Radiation Therapy Breast or Chestwall — Skin Changes: Erythema, Itch, Dry Desquamation and/or Radiation Therapy Breast or Chestwall — Skin Changes: Moist Desquamation) until your side effects have gone away — usually within 6—8 weeks.

#### Skin Care

- Skin reactions (redness, itchiness, peeling and/or blistering) in the treated area may continue to increase for up to 7—10 days following the completion of your treatment. The reactions should then slowly start to improve. It may take up to 6—8 weeks before your skin is fully healed.
- Some patients have been given permanent tattoos, while others may have had marks drawn on their skin. Do not scrub off any skin marks—marks will disappear on their own.
- If your skin is peeling or blistering it is important that you follow the specific washing/cleaning instructions given to you by the nurse or therapist.
- Wait until the tenderness/redness and itchiness has gone away before resuming use of cosmetics or perfumes, and/or shaving in the treated area.
- Over time you may notice changes in the treated skin; it may appear slightly darker or tanned, or you might notice more freckles.
- The treated skin may always be more sensitive to the sun and cold. Keep treated areas well protected by covering up when outside. Use a sun block product with a SPF of at least 30; put it on 30 minutes before going out. Re-apply at least every two hours or after swimming or sweating. It is recommended to use sunscreen on sunny days in the winter. Remember to check sunscreen bottles for best before date—old sunscreen will not protect you.

Reminder!

You may experience fatigue for some time after the completion of treatment. Consider adjusting your life style for a few months (i.e. only return to work part-time).

- Do not use tanning beds.

#### Fatigue

- Tiredness and fatigue will continue while your body heals. Your energy levels will return with time, usually within 8—12 weeks after your last day of treatment. If fatigue persists see your physician. Follow *Canada's Food Guide* for recommendations of the amount and type of foods required to meet your nutritional and physical needs.

#### Follow Up Care

After your treatment is completed, a follow-up appointment will be scheduled. At this appointment you will be provided with a personalized follow-up care plan which will outline a follow-up schedule including necessary tests and appointments, what symptoms to watch for, and a summary of the treatments you received to treat your breast cancer. A copy of this follow-up plan will be provided to your family physician or nurse practitioner.

Additional information about available cancer and post treatment programs can be found by calling the **Breast & Gyne Cancer Centre of Hope** at 204-788-8014 or 1-888-660-4866 (toll free) or in a booklet entitled *Moving Forward after Cancer Treatment* is available online at [movingforwardaftercancer.ca](http://movingforwardaftercancer.ca).

Important

If you do not receive a treatment summary/follow-up care plan from your Radiation Oncology Team please contact your clinic nurse @

### Late Effects

You may experience late effects from your radiation treatment. Late effects are side effects from radiation that may show up several months to years after the treatment has ended. Not everyone will have late effects, but it is important to know what to look for.

Within the treated area, the way your skin looks, feels and moves can change. It may be more severe for some people than others. These effects may be permanent or improve gradually over time. Late radiation skin changes may include:

- **Scaling** is when the skin peels and flakes. This dryness is caused by damage to the sweat/oil glands.
- **Atrophy** is when the radiated skin becomes thin **and** fragile. Skin may recover over time but it will never get back to the way it was before radiation.
- **Telangiectasia** is purplish-red spots on the skin surface that look like little spiders. This is caused by damage to tiny blood vessels in the skin. This can occur up to 8 years following radiation therapy.
- **Fibrosis** is when the skin feels hard, thick and uneven. This can cause tightness that limits movement of the area. Soft tissue under the skin can become hard and painful. Fibrosis can occur 4-6 months after treatment.
- An **ulcer** is an open sore that does not heal easily. An injury to the radiated area can cause the skin to become red, hot and painful. The skin may break open and cause an ulcer.
- **Hyperpigmentation** is a darkening of the skin. This often resolves in 3 months to a year after completion of radiation but may not go away. People with darker skin have more melanin and may experience more hyperpigmentation.
- **Hypopigmentation** is a lightening of the skin. This can be a permanent change that occurs following the resolution of hyperpigmentation.
- **Lymphedema** is a collection of fluids that causes swelling in the arms.

Please contact the **Breast and Gynae Cancer Centre of Hope** at 204-788-8014 or 1-888-660-4866 and ask to speak to the Breast Cancer Patient and Family Educator **as soon as possible** if you notice:



- Telangiectasia
- Severe fibrosis causing pain or which limits the ability to move the area and nearby limbs
- Tissue breakdown or ulceration
- Severe scaling
- Lymphedema

### Additional Notes:

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CCMB Clinical Practice Guideline: **Symptom Management**  
Management of Long-Term Effects of Radiation-Induced Skin Toxicities in Breast Cancer –  
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