

Radiation Therapy Skin Care Guideline

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Objectives

- Describe the history of the Provincial RT Skin Care Committee
- Describe the development of the guidelines
- Provide an overview of the guidelines including changes to clinical practice

www.bccancer.bc.ca/HPI/SupportiveCare/RadiationSkinReactions

History

- Provincial team established in 1999
- Representatives from all 5 BCCA centres
- Multidisciplinary group including Radiation Oncology Nurses, Radiation Therapists and Radiation Oncologists

Mandate:

'To develop, implement and evaluate skin care guidelines for patients receiving radiation therapy in the BCCA. The group is responsible for ensuring that changes in professional practice are based on evidence derived from research.'

Accomplishments

- First Provincial guidelines developed and released 2001
- Guidelines revised in 2006 and 2011
- 2011 Revision process:
 - Smaller sub-group of the larger committee
 - Literature review
 - Revising the guidelines
 - Feedback from stakeholders
 - Dissemination of the guidelines

Goals of the Guidelines

- Directed to health professionals caring for individuals receiving radiation therapy
- To minimize radiation skin reactions
- To maintain and restore skin integrity, when possible
- To control symptoms, promote comfort and enhance quality of life

Accessing the Guidelines


www.bccancer.bc.ca

BC Cancer Agency - Microsoft Internet Explorer

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| | | | |
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| Patient/Public Info <ul style="list-style-type: none">▶ Types of Cancer▶ Cancer Treatment▶ Info for New Patients▶ Library▶ Prevention▶ Recommended Links▶ Screening▶ Symptom Management and Palliative Care▶ Unconventional Therapies▶ More... | Regional Services <ul style="list-style-type: none">▶ Abbotsford Centre▶ Centre for the Southern Interior▶ Fraser Valley Centre▶ Vancouver Centre▶ Vancouver Island Centre▶ Communities Oncology Network | Health Professionals Info <ul style="list-style-type: none">▶ Annual Cancer Conference 2006▶ Cancer Management Guidelines▶ Chemotherapy Protocols▶ Cancer Drug Manual▶ Surgical Oncology Network▶ Cancer Statistics▶ Continuing Education▶ Nursing▶ Supportive Care▶ More... |  |
| About BCCA <ul style="list-style-type: none">▶ Strategic Plan▶ BC Cancer Agency Leadership▶ Join our Team▶ News Centre | Research <ul style="list-style-type: none">▶ Clinical Trials Research▶ Research Ethics▶ Research Programs▶ Technology | Donating <ul style="list-style-type: none">▶ Ways to Give▶ Community Events▶ The Weekend to End Breast Cancer▶ BC Cancer Foundation | Our Locations <p>Vancouver 600 West 10th Avenue Vancouver, BC V5Z 4E6 (604) 877-6000 1-800-663-3333 (in BC)</p> <p>Fraser Valley</p> |

<http://www.bccancer.bc.ca/HPI/CancerManagementGuidelines/SupportiveCare/> Internet

Accessing the Guidelines

www.bccancer.bc.ca

Supportive care

Radiation skin reactions

The screenshot shows a Windows Internet Explorer browser window displaying the BC Cancer Agency website. The address bar shows the URL: <http://www.bccancer.bc.ca/HPI/CancerManagementGuidelines/SupportiveCare/RadiationSkinReactions/default.htm>. The page title is "Radiation Skin Reactions : BC Cancer Agency". The navigation menu includes "Patient/Public Info", "Regional Services", "Health Professionals Info", "About BCCA", "Research", and "Donating". The breadcrumb trail is "BC Cancer Agency >> Health Professionals Info >> Cancer Management Guidelines >> Supportive Care >> Radiation Skin Reactions". The main content area is titled "Radiation Skin Reactions" and includes a "Print this Page" link, an update date of "Updated 23 October 2008", and a link to the PDF document: "[CareofRadiationSkinReactions.pdf](#)". The text states: "The intent of this document is to provide common guidelines for the care of radiation skin reactions. It does NOT apply to skin cancers and their treatment. The guidelines are directed to health professionals who are providing care for individuals receiving radiation therapy. It is not intended as a patient handout, but its contents can be used to develop patient education material. Any questions or concerns about signs and symptoms of radiation skin reaction, the management of the reaction, or suspicion of bacterial or fungal infections MUST be reported to the attending radiation oncologist. An interdisciplinary group prepared these guidelines with representation from the four centres within the BC Cancer Agency (BCCA). If you require further information, please contact one of the BC Cancer Agency clinics listed below and request to speak to the triage nursing line." The contact information for four BC Cancer Agency clinics is provided: Fraser Valley, Southern Interior, Vancouver, and Vancouver Island. For information on skin cancer, the page provides two URLs: <http://www.bccancer.bc.ca/HPI/CancerManagementGuidelines/Skin/default.htm> and <http://www.bccancer.bc.ca/PP/TypesofCancer/SkinNonMelanoma/default.htm>. The status bar at the bottom indicates "Local intranet" and "100%" zoom.

Summary of Changes

- Change in formatting
- Additional detail
- Integration of the NCI grading criteria (version 3.0)
- Section devoted to patient assessment
- Links to other BCCA Nursing Practice References (Malignant Wound Care and Pain Symptom Management Guideline)

Changes to Clinical Practice

Use of deodorants: Patients may continue to use deodorants (excluding antiperspirants containing aluminum) during radiation therapy

Swimming: Patients may continue to swim in chlorinated pools but should rinse afterwards and apply a moisturizing lotion. Patients with moist desquamation should avoid swimming



CARE OF RADIATION SKIN REACTIONS

| Definition | |
|---|--|
| <p>Radiation skin reactions are a common side effect of radical ionizing radiation treatment. The pathophysiology of a radiation skin reaction is a combination of radiation injury and the subsequent inflammatory response and can occur at both the entrance and exit site of the irradiation. Ionizing radiation damages the mitotic ability of stem cells within the basal layer preventing the process of repopulation and weakening the integrity of the skin. Reactions are evident one to four weeks after beginning treatment and can persist for several weeks post treatment.</p> | |
| Factors Contributing to the Severity of Radiation Skin Reactions | |
| Type of Radiation and Energy | <ul style="list-style-type: none"> A source of radiation used in cancer treatment is a linear accelerator. This high voltage machine generates ionizing radiation from electricity to deliver external beam radiation therapy in the form of photons or electrons Radiation treatments delivered by external beam vary in depth depending on the energy of the beam produced Photons penetrate more deeply with increasing energy and also partially spare the skin from the effect of radiation; while electrons have shallow depth and high skin dose |
| Treatment Technique | <ul style="list-style-type: none"> There is evidence to suggest that specific treatment techniques such as Intensity Modulated Radiation Therapy (IMRT) are associated with a decreased severity of acute radiation skin reactions |
| Location of the Treatment Field | <ul style="list-style-type: none"> The radiation skin reaction may be more severe depending on the location of the treatment field i.e. sites where two skin surfaces are in contact such as the breast or buttocks |
| Volume of Treated Tissue | <ul style="list-style-type: none"> As the volume of tissue irradiated in a particular location of the body increases, the severity of all reactions will potentially increase |
| Dose, Time and Fractionation Parameters | <ul style="list-style-type: none"> Radiation treatments are prescribed in units of measurement known as Gy (Gray) or cGy (centiGray) with 1 Gy equaling 100 cGy In order to manage the toxicities associated with radiation therapy, the total dose is divided into multiple daily doses called fractions As the daily dose and/or total dose increases, radiation skin reactions will potentially increase |
| Chemotherapeutic Agents | <ul style="list-style-type: none"> The effects of ionizing radiation therapy are enhanced by specific radiosensitizers such as doxorubicin, 5-fluorouracil and bleomycin |
| Co-existing Chronic Illnesses | <ul style="list-style-type: none"> Coexisting chronic illnesses such as anemia, diabetes mellitus and suppression of the immune system may contribute to the severity of the radiation skin reaction |
| Tobacco Use | <ul style="list-style-type: none"> Smoking limits the oxygen carrying capacity of hemoglobin. Elevated carboxyhemoglobin levels have been associated with changes to the epithelium and increased platelet stickiness. Nicotine affects macrophage activity and reduces epithelialization |
| Age | <ul style="list-style-type: none"> Vasculoconnective damage caused by ionizing radiation, when combined with the degenerative changes to the epidermis and dermis, leads to an exacerbation of radiation skin reactions as age increases |
| Nutritional Status | <ul style="list-style-type: none"> Malignancy alone can compromise nutritional status. Patients who are poorly nourished may be at risk for poor wound healing |

General Skin Care Recommendations

Washing: Patients should be encouraged to wash the irradiated skin daily using warm water and non perfumed soap. The use of wash cloths may cause friction and are therefore discouraged. The use of a soft towel to pat dry is recommended.

Use of Deodorants: Patients may continue to use deodorants (excluding antiperspirants containing aluminum) during radiation therapy.

Other Skin Products: Patients are discouraged from using any perfumed products which may possess chemical irritants and induce discomfort. Products such as gels or creams should be applied at room temperature. Patients should be encouraged to use products advocated by the radiation department.

Hair Removal: The use of an electric shaver is recommended and wax or other depilatory creams are discouraged. Patients are asked not to shave the axilla if it is within the treatment field.

Swimming: Patients may continue to swim in chlorinated pools but should rinse afterwards and apply a moisturizing lotion. Patients experiencing a radiation skin reaction which has progressed beyond dry desquamation should avoid swimming.

Heat and Cold: Patients are encouraged to avoid direct application of heat or cold to the irradiated area i.e. ice or electric heating pads.

Band-Aids, Tape and Clothing: Rubbing, scratching and massaging the skin within the treatment area causes friction and should be discouraged. The use of Band-Aids or tape on the skin should also be avoided. Wearing loose fitting cotton clothing may avoid traumatic shearing and friction injuries. The use of a mild detergent to wash clothing is also recommended.

Sun Exposure: Patients should be instructed to avoid direct sun exposure and cover the irradiated skin. The use of sunscreen products with at least SPF 30 are recommended for at least one year following treatment.

Focused Health Assessment

| GENERAL ASSESSMENT | SYMPTOM ASSESSMENT | PHYSICAL ASSESSMENT |
|--|--|---|
| <p>Contact Information</p> <ul style="list-style-type: none"> Physician name - oncologist, general practitioner (GP) Pharmacy (if applicable) - name and contact information Home health care (if applicable) – name and contact information <p>Consider Causative/Contributing Factors</p> <ul style="list-style-type: none"> Cancer diagnosis (site) Cancer treatment: date of last treatment/s, concurrent treatments, volume of tissue treated, technique, type of radiation and energy, location of treatment field, volume of tissue treated, dose, time and fractionation Co-morbidities Nutritional status Tobacco use Recent lab or diagnostic reports | <p>Normal</p> <ul style="list-style-type: none"> What is the condition of your skin normally? What are your normal hygiene practices? <p>Onset</p> <ul style="list-style-type: none"> When did the changes in your skin begin? <p>Provoking / Palliating</p> <ul style="list-style-type: none"> What makes it feel better or worse? <p>Quality (in the last 24 hours)</p> <ul style="list-style-type: none"> Do you have any pain, redness, dry or scaling skin, blisters or drainage? Do you have any swelling? <p>Severity / Other Symptoms</p> <ul style="list-style-type: none"> Since your last visit, how would you rate the discomfort associated with the skin reaction? between 0-10? What is it now? At worst? At best? On average? Have you been experiencing any other symptoms: fever, discharge, bleeding <p>Treatment</p> <ul style="list-style-type: none"> When was your last cancer treatment (radiation or chemotherapy)? How have you been managing the radiation skin reaction? (cream, ointments, dressings) Are you currently using any medications? How effective are they? Any side effects? <p>Understanding / Impact on You</p> <ul style="list-style-type: none"> Is your skin reaction and treatment impacting your activities of daily living (ADL)? Do you require any support to (family, home care nursing) complete your skin care routine? Are you having any difficulty sleeping, eating, drinking? <p>Value</p> <ul style="list-style-type: none"> What is your comfort goal or acceptable level for this symptom? | <p>Vital Signs</p> <ul style="list-style-type: none"> Include temperature, pulse, respiratory rate and blood pressure Frequency – as clinically indicated <p>Physical Assessment</p> <p>Assess skin condition</p> <ul style="list-style-type: none"> Location Colour Size Wound base (if present) Discomfort Drainage (if present) Signs of infection |


Applying the Practice Reference

- Grade the reaction
- Each section contains information related to clinical presentation, assessment and care management
- Sections for late reactions, recall phenomenon and treatment procedures

| DERMATITIS GRADING SCALE | | | | |
|---------------------------------|------------------------------------|--|--|---|
| Adapted NCI CTCAE (Version 3.0) | | | | |
| GRADE 0 (Normal) | GRADE 1 (Mild) | GRADE 2 (Moderate) | GRADE 3 (Severe) | GRADE 4 |
| Normal | Faint erythema or dry desquamation | Moderate to brisk erythema; patchy moist desquamation, mostly confined to skin folds and creases; moderate edema | Moist desquamation other than skin folds and creases; bleeding induced by minor trauma or abrasion | Skin necrosis or ulceration of full thickness dermis; spontaneous bleeding from involved site |

GRADE 0 – GRADE 1



| NON – URGENT | |
|--|---|
| Support, teaching, & follow-up as clinically indicated | |
| Clinical Presentation | <p>Erythema</p> <ul style="list-style-type: none"> • Pink to dusky colouration • May be accompanied by mild edema • Burning, itching and mild discomfort <p>Dry desquamation</p> <ul style="list-style-type: none"> • Partial loss of the epidermal basal cells • Dryness, itching, scaling, flaking and peeling • Hyperpigmentation <p><i>Brisk Erythema</i> <i>Dry Desquamation</i></p>  |
| Reaction Assessment | <p>Assessment to include:</p> <ul style="list-style-type: none"> • Location • Size of area • Colour • Discomfort (burning, itching, pulling, tenderness) – erythema • Discomfort (dryness, itching, scaling, flaking, peeling) – dry desquamation |
| Promote Cleanliness | <ul style="list-style-type: none"> • Use non-perfumed soap. Bathe using warm water and palm of hand to gently wash affected skin. Rinse well and pat dry with a soft towel • Wash hair using warm water and mild, non-medicated shampoo such as baby shampoo • Patients receiving RT for perineal/rectal cancer, should use a sitz bath daily beginning at the start of treatment |
| Promote Comfort | <ul style="list-style-type: none"> • Apply hydrophilic (water based) body lotions or creams on affected area. Gently apply with clean hand twice a day. Do not rub skin • Avoid petroleum jelly based products • Avoid irritant products containing alcohol, perfumes, or additives and products containing Alpha Hydroxy Acids (AHA) • Normal saline compresses up to 4 times daily |
| Reduce Inflammation | <ul style="list-style-type: none"> • Alleviate pruritus and inflammation. Corticosteroid creams may be used sparingly as ordered by the physician |

Questions

