



Radiotherapy Skin Reactions

Radiation Dermatitis Information
Sheet for Radiotherapy
Healthcare Professionals



Introduction

This information has been written to support radiotherapy healthcare professionals in providing advice to patients about skin care and includes guidance on assessing and managing skin toxicity

Key principles of effective skin care management



- 01** Knowledge of intrinsic and extrinsic factors that may affect the development and severity of radiation dermatitis
- 02** Documentation of current skin care regimen and existing skin conditions, including sensitivities and allergies to certain products
- 03** Use of a standardised tool for radiation dermatitis assessment for all patients undergoing a course of radiotherapy (RTOG is recommended. See Table 2)
- 04** Adherence to a standardised assessment process that includes a baseline assessment and weekly assessments during treatment using the standardised assessment tool
- 05** Mandatory local training for all staff assessing skin toxicity, to ensure accurate reporting and maintenance of consistent management protocols
- 06** Regular audit of skin reactions to collate accurate data on frequency and severity
- 07** An emphasis on empowering patients to use products they are familiar with and to self-monitor their skin, being proactive to improve comfort and minimise the risk of developing severe skin reactions
- 08** Testing within a well-designed randomised controlled trial any new product or device designed to reduce radiation dermatitis, before its implementation

Incidence

Radiation dermatitis can appear at any time
but is more likely in treatment schedules over 10 fractions

Reactions peak at the end of treatment and may worsen
10-14 days
after treatment completion

Most patients find their skin has improved by about
4 weeks after treatment finishes

If the skin is blistered/broken, healing may
take longer than this



Influencing factors

It is important to be aware of factors that can influence the severity of skin reactions

Prior to the start of radiotherapy,
patients should be identified as being at



low, medium or high risk
based on intrinsic and extrinsic factors

Table 1: Intrinsic and extrinsic factors that influence the severity of skin reactions

Intrinsic factors	Extrinsic factors
<p>Demographic or disease-related characteristics Age, ethnic origin, smoking, obesity, breast size, hormonal status, presence of infection, co-existing diseases, such as diabetes or cardiovascular disease. Skin type</p>	<p>Treatment-related characteristics Technique, dose, volume, fractionation, beam energy, use of bolus, immobilisation devices, addition of systemic anti-cancer therapies (SACTs). Clinical site of treatment, e.g. areas containing skin folds, such as the head and neck, breast, and axilla</p>

Assessments and management

Before radiotherapy begins, the following baseline assessments are recommended:



RTOG score

Formally assess and document RTOG score (see Table 2)



Any pre-existing skin conditions

Ensure any pre-existing skin conditions, such as infection, sun burn, eczema, etc. are recorded



Condition of the treated area

Discuss and document the condition of the skin on and around the site of treatment



Self-care advice

Provide self-care advice (see Radiotherapy Skin Reactions: Information for Patients)



Skin care routine

Discuss and document patients' skin care routines (including any routinely used products on or near the site of treatment)



Intrinsic and extrinsic factors

Assess, discuss and document intrinsic and extrinsic factors providing appropriate support and information (e.g. smoking cessation, extra care if skin folds in the treatment area). Those patients with intrinsic or extrinsic influencing factors are at a higher risk of developing a significant skin reaction and should therefore be monitored frequently



Radiation dermatitis

Discuss the likelihood of radiation dermatitis developing and the possibility of permanent radiotherapy-related side effects to the skin, e.g. increased skin sensitivity, hyper- or hypo-pigmentation, and what precautions to take. For example, advise patients to reduce sun exposure to the treatment area and to use sunscreen with SPF 50 (sun protection factor 50)

During radiotherapy

Throughout radiotherapy, the skin should be checked every day and patients should be asked if they have noticed any changes to their skin. The following assessments are recommended on (at least) a weekly basis:



Assess, discuss and document

any changes to the patients' skin or skin care routines



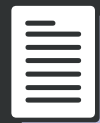
Consider over-the-counter

or prescription medicines such as analgesics as appropriate



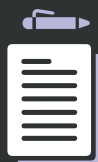
Ask about any symptoms

experienced including pain, itching or sleep disturbance



Formally assess and document

the RTOG score (see Table 2)



Encourage self-monitoring

of skin changes and support documentation and discussion of these with the radiotherapy team



Provide advice and support

to promote comfort (see Radiotherapy Skin Reactions: Information for Patients)

At the end of radiotherapy

Inform patients of the potential for skin reactions to worsen and 'peak' around

10-14 days

after the last treatment session



If patients require **ongoing wound management**

ensure this is communicated to primary care teams



Encourage patients to contact the **radiotherapy department or clinical nurse specialist**

if they have ongoing skin reactions that they are concerned about or that are not as expected

Late effects of radiotherapy

There is a small risk that patients may have a delayed skin reaction months or years after their treatment. There is an increased risk for patients that received SACT in addition to radiotherapy. You may encounter patients with long-term complications at follow-up clinics, in the community, or when seeing a patient for a re-treatment

Examples of late effects include:

01 Fibrosis

03 Cellulitis

(an infection which requires antibiotic treatment)

02 Lymphoedema

04 Telangiectasia

This can impact on **patients' lives**

and may not resolve over time; therefore, these late effects should be included in any local site-specific patient information where particularly relevant



Referral to a **dermatologist**

or appropriate lymphoedema management service may be required. There are also local community and charity support groups able to offer support in managing these conditions



Table 2: Radiation Therapy Oncology Group (RTOG) acute radiation dermatitis grading criteria

Grade 0	Grade 1	Grade 2a	Grade 2b	Grade 3
<p>No visible change to the skin</p>	<p>Faint or dull erythema Mild tightness of the skin and mild itching may occur</p>	<p>Tender or bright erythema Skin may feel tighter, itchy and/or sore</p>	<p>Patchy moist desquamation Areas where skin has broken down can be seen. Yellow/pale green exudate may be visible on the surface. Soreness and oedema are evident</p>	<p>Confluent moist desquamation More pronounced areas of broken skin can be seen. Yellow/pale green exudate are visible. Soreness and oedema are evident</p>
Assessments				
Weekly assessments and RTOG score			Daily assessments and RTOG score	
Aims of care				
<ul style="list-style-type: none"> To promote hydrated skin and maintain skin integrity To promote comfort 			<ul style="list-style-type: none"> To reduce risk of complications of further trauma and infection To promote comfort 	
Guidance				
<p>Moisturise: Advise the patient to continue moisturising with preferred products. If the patient is not already using a moisturiser, advise them to start</p> <p>Encourage self-care: Discuss self-care guidelines and ensure that the patient has sources of information to refer to</p> <p>Steroid or cortisone creams: Steroid or cortisone creams should only be used following advice from an independent prescriber or from staff qualified to dispense medication on Patient Group Directives. Contraindications for using these creams are broken skin or signs of infection</p> <p>Analgesia: Ensure adequate analgesia is prescribed for the patient if needed</p> <p>If the skin breaks: Patients should be advised to discontinue using any cream and should be advised on, or provided with, appropriate dressings. If there are signs of infection, undertake screening. Increase skin assessments to daily frequency. Seek further advice, if required, from a practitioner trained in radiotherapy-induced skin reactions and wound care or tissue viability</p>			<p>Moisturise: Continue to apply moisturiser to skin within the treatment field that is still intact</p> <p>Encourage self-care: Discuss self-care guidelines and ensure that the patient has sources of information to refer to. Follow skin care guidelines and ensure patient has information sources to refer to</p> <p>Dressings: Use appropriate dressings/products on broken skin, e.g. non-adhesive, silicone low adhesion. Do not use paraffin/petroleum jelly-based products or gentian violet</p> <p>Analgesia: Ensure adequate analgesia is prescribed for the patient if needed.</p> <p>Infection screening: Take a swab if there are signs of infection and arrange antibiotic treatment if infection is indicated</p>	
If you are unsure, seek advice from the wound care team, tissue viability specialists or dermatology				



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