



## **Summary of Interventions for Acute Radiotherapy-Induced Skin Reactions in Cancer Patients: A Clinical Guideline recommended for use by The Society and; College of Radiographers**

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### **Summary**

This is a summary of the main findings from recent literature and clinical guideline for acute radiotherapy induced skin reactions in cancer patients. See also A UK Survey of Radiotherapy Skin Care by SCoR available on the document library and article published in Radiography: Harris R, et al., Radiotherapy skin care: A survey of practice in the UK, Radiography (2011), doi:10.1016/j.radi.2011.10.040

### **Introduction**

This is a summary of the main findings from the literature that have been used to develop a clinical guideline for acute radiotherapy induced skin reactions in cancer patients.

Skin reactions from external beam radiotherapy are one of the most common side-effects from treatment and are a factor which can limit dose. Megavoltage linear accelerators with skin sparing capabilities have significantly reduced the severity of reactions from radiotherapy; however, accelerated dose schedules with combined radiation chemotherapy regimens have increased the condition. The most severe reactions tend to be seen in those patients receiving high doses to large fields. Recently the use of Intensity Modulated Radiotherapy (IMRT) has been shown to offer the opportunity to reduce skin toxicity in some cases, especially the rates of dry and moist desquamation when treating cancers in the head and neck region.

Many patients have fears and anxieties about skin reactions from radiotherapy. The literature suggests that education regarding the care of early radiation skin reactions should be an essential part of the management process for patients undergoing radiotherapy.

Patients should be given information about skin reactions and self-care strategies. A recent UK survey found that:

- a variety of practises are used in the UK for skin care
- differing advice is given to patients
- uncertainty exists around what topical agents or dressings should be used.

The literature advises that, since radiation skin changes cannot be prevented, the goal for the patient is to delay onset of symptoms and to avoid factors that exacerbate the inevitable radiation damage. The aim of any skin care strategy should be to minimise symptoms and to promote and maintain comfort for as long as possible.

## Patient Information

Patients should be given both written and verbal information, which specifies:

- how and why skin reactions occur
- when they are likely to appear
- what they will look and feel like
- where the reaction is likely to occur
- how they will be treated
- self care strategies
- risk factors.

## Incidence

In providing patients with information, the following should be taken into account:

- The incidence of skin reactions has not been quantified
- Treatment areas commonly cited as having a higher incidence are those of head and neck, breast and chest wall fields, and areas containing skin folds.

## Influencing Factors

The various factors that influence how people react to radiotherapy also need to be considered in advice designed to be given to patients, particularly:

- **Intrinsic factors** which include demographic or disease related characteristics such as age, hormonal status, infection, ethnic origin, smoking, obesity and co-existing disease;
- **Extrinsic factors** that are treatment-related and influence the delivery of therapy. They include, treatment dose, volume, fractionation (including time span of treatment), site of treatment, beam energy and adjuvant chemotherapy. Combined modality treatment, in particular, may lead to an increased risk of skin reactions.

The goal of good skin care management should be to identify the degree of risk and adopt strategies to delay onset of skin reactions.

## Assessment of Radiation Skin Reactions

The use of an effective evidence-based skin care protocol and monitoring system would assist in delivering an evidence-based approach to radiation skin care management, aid product evaluation,

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and contribute to the justification of practice.

Before radiotherapy begins, it is essential that a baseline assessment of the patient's current skin condition and care is documented, including what skin products are being used currently. Assessments and review of the skin should continue for all patients on a regular basis throughout treatment, and at least weekly.

Currently, a variety of different skin assessment tools exists. Within a radiotherapy department, a single validated assessment tool and scoring criteria such as used by the Radiation Therapy Oncology Group / European Organisation for Research and Treatment of Cancer (RTOG/EORTC) should be agreed upon and adopted throughout. Preferably, a single assessment tool should be agreed for use across a whole cancer network.

Using the agreed validated tool and scoring criteria, radiotherapy departments should standardise the initial assessment and continued regular monitoring of skin reactions, and ensure that these are recorded.

All skin reactions must be graded and recorded by an appropriately trained member of the multidisciplinary team.

An important aspect of skin care during radiotherapy is that of patient well being. It may not be possible to stop skin reactions from occurring or to reduce the rates of skin reaction, but there may be comfort and psychosocial benefits that the use of skin care products may provide. Recording of patient acceptability/satisfaction and compliance with skin care advice is recommended as such information can be used to evaluate the appropriateness of skin care products for future patients. There is also a need to evaluate the cost effectiveness of products being used on the skin.

## Management

The following is a brief summary of the skin care management principles to be adopted.

### **Skin maintenance during treatment: this only applies to the area being treated.**

Do not use thick creams. Do not use creams that have a high content of paraffin or petroleum jelly. Do not use topical antibiotics unless there is a proven infection. Daily washing of the skin with mild soap and water is recommended. Deodorants may continue to be used unless these are found to irritate the skin. Avoid rubbing the area. Use an electric shaver rather than a wet razor. Do not use wax to remove hair or other hair removing creams or products.

Caution should be taken when swimming in a pool as chlorinated water can have a drying effect on the skin. Wear loose natural fibre clothing. Adhesive tape should be avoided within the treatment area.

Avoid sun exposure and shield the area from direct sunlight during treatment.

### **RTOG 0: No visible change to skin**

- Continue with own skin care moisturising regime
- Assess weekly.

### **RTOG 1: Faint or dull erythema:**

- Advise patient to frequently apply a moisturiser to soothe
- Assess weekly.

### **RTOG 2a: Tender or bright erythema**

- Advise patient to apply moisturiser to soothe
- Steroid or cortisone creams should only be used following medical advice from the radiotherapy department. These creams should not be used on broken skin.
- If the skin breaks, patients should be advised to discontinue the cream and ask for further advice
- Assess daily.

## **RTOG 2b: Patchy moist desquamation, moist oedema**

- Use appropriate dressing
- Do NOT use Gentian Violet
- Moisturiser can still be applied to other parts of the field
- Assess daily.

## **RTOG 3: Confluent moist desquamation**

- Use suitable dressings for the amount of exudates. Do not use adhesive dressings.
- Do NOT use Gentian Violet
- Take a swab if there are any signs of infection
- Seek advice from Tissue Viability Nurse
- Assess daily.

## **Skin types**

All patients develop radiation induced skin reactions in the same way REGARDLESS of ethnic origin. Variations in reactions are dependent upon individuals' responses to treatment related to the risks factors listed previously.

## **Post radiotherapy**

- For all patients at the end of their courses of radiotherapy, assess and record the skin condition, any reaction and its grade, and the care or treatment advised
- Advise patients of the potential for skin reactions to appear after treatment and what action to take
- Advise patients of any permanent radiotherapy-related side-effects to the skin (eg increased skin sensitivity) and what precautions to take
- Establish effective, on-going liaison with community care/G.P services on post- treatment skin (and other) care.

## **Main Recommendations and Summary**

- All radiotherapy departments should monitor and document skin morbidity in a systematic way. Best practice should have standard pre-treatment assessment and baseline, and weekly reviews using a particular validated tool and process. Skin care practice should be agreed across the Cancer Network, in line with the requirement for agreed Radiotherapy protocols as recommended within the Cancer Peer Review Measures for Radiotherapy (England).
- High quality trials to investigate interventions for dry or moist desquamation are urgently required. National Guidelines must be regularly reviewed and revised to ensure they remain consistent with emerging evidence.
- Evaluation of treatment aftercare requires review with the aim of ensuring that there is continuity of care across the pathway at the local level. Audits of patient preferences and compliance with skin care information and products need to be undertaken.

## **See also**

Harris R, et al., Radiotherapy skin care: A survey of practice in the UK, Radiography (2011),

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*A UK Survey of Radiotherapy Skin Care.* The Society and College of Radiographers in collaboration with the Department of Psychology, University of Exeter. Available on <http://doc-lib.sor.org/>

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