8.3 **Radiotherapy Skin Care**

**Objectives**

By the end of this section you should:

- Know how to maintain skin integrity during radiotherapy;
- Be able to advise a patient on caring for their skin during radiotherapy;
- Be able to recognise and differentiate between stages of radiotherapy skin reaction;
- Be able to identify appropriate management of radiotherapy skin reactions on an individual basis.

**Skin Care Advice For Patient Receiving Radiotherapy**

1. **Radiotherapy Site**
   The patient should always be made aware of the areas of their body which the radiotherapy will affect at the start of their treatment e.g. entry and exit sites. The patient can continue with their present routine for all other areas of their body not affected by the radiotherapy.

2. **General Skin Condition**
   Maintenance of skin integrity is the goal of skin care during radiotherapy. The patient should be advised to keep the skin soft and supple. It is advisable to use a moisturiser – aqueous cream.

3. **Washing/Drying (As point 1 & 2)**
   Patients should continue to wash as normal. However, on the area affected by the radiotherapy the patient should be advised to:
   - Use tepid water;
   - Use a non-perfumed soap;
   - Wash the area gently using their hands rather than a sponge or facecloth;
   - Pat the skin dry using a soft towel;
   - Pay particular attention to skin folds i.e. axilla, groin, behind ears.
   Gentle washing of the skin leads to fewer reactions. Vigorous rubbing when washing and drying the skin causes friction, which in turn is the main cause of dry desquamation. Extremes of temperature exacerbate skin reactions.

4. **Hair-Washing (As point 1)**
   Patients receiving radiotherapy to their head should continue to wash their hair. However, they should be advised to:
   - Use tepid water;
   - Use a non-perfumed shampoo e.g. Johnson’s Baby Shampoo;
   - Wash the hair gently and rinse well;
   - Pat the hair dry using a soft towel;
   - If using a hairdryer it should be placed on a cool setting;
   - No other products should be used e.g. hairspray, hair gel, perming lotion, dye.
   Clean hair promotes a feeling of well-being. Gentle washing of the scalp leads to fewer reactions. Vigorous rubbing when drying the skin causes friction, which in turn is the main cause of dry desquamation.
8.3 **Radiotherapy Skin Care** cont.

5. **Shaving/Waxing (As point 1)**
Patients whose treatment site covers areas, which would involve the above, should be advised to:
- Use only an electric razor. Open razors (even for a dry shave) should not be used;
- Waxing is not advised;
- Women receiving radiotherapy to the breast should be advised not to shave their axilla while receiving radiotherapy, due to the skin folds in the area.
Shaving causes friction and can cause breaks in the skin integrity, which in turn is the main cause of dry desquamation.

6. **Use of Deodorants/Make-up/Other Toiletries (As point 1)**
Patients whose treatment site covers areas which would involve the use of the above, should be advised as follows:
- Not to use deodorant or talcum of any kind;
- Not to use perfumed products of any kind;
- Not to use make-up of any type.
All of the above include products which claim to be Hypo-Allergenic. All of the above are often heavily perfumed. Some products contain metal substances, which can potentially increase the severity of radiation-induced skin reaction.

7. **Clothing (As point 1)**
Patients whose treatment site covers areas, which would be affected by tight fitting clothing, should be advised to:
- Wear loose-fitting comfortable clothing;
- Cloths with close contact to the skin e.g. underwear, collars etc. should preferably be made of a natural fibre such as cotton.
Tight fitting clothes cause friction and increased perspiration of the skin altering the PH balance, which is a natural mechanism to skin integrity. Both of these can lead to dry desquamation.

8. **Swimming**
Patients should be advised that swimming should be avoided. This will vary depending on the patient’s circumstances and the patient should be advised to discuss this with their Consultant.

Chlorine can cause irritation and dryness of the skin. Vigorous rubbing of the skin causes friction as does tight fitting clothing e.g. swimwear. This in turn is the main cause of dry desquamation.

9. **Skin Protection**
**SUN:** during treatment the patient should be advised to keep the area being treated out of the sun. For the following year the area should be protected with a sunscreen of no less than Factor 20. Ideally the patient should protect the area indefinitely as the skin will always be more susceptible to damage.

This may vary depending on the patient’s circumstances and the patients should be advised to discuss this with their Consultant.

The use of Sun Beds is not advised.

**WIND:** patients should keep treatment areas, which may be exposed to wind covered to avoid windburn.
8.3 Radiotherapy Skin Care cont.

EXTREMES OF TEMPERATURE: the direct application of Hot/Cold packs e.g. hot water bottles etc. should be avoided.

Increased damage to the skin can result from exposure to the sun, wind or any extremes of temperature. Irradiated skin has an increased sensitivity to sunlight.

10. After Radiotherapy

The patient should be informed that the guidelines should be adhered to for approximately 4-6 weeks after completion of radiotherapy.

Symptoms may persist or worsen. It is often 7-10 days after radiotherapy that reactions are at their peak.

Stages of Radiotherapy Skin Reaction & Treatment Guidelines

Maintenance of skin integrity is the goal of skin care during radiotherapy. The patient should be advised to keep their skin soft and supple using Aqueous Cream.

A. Erythema

Reddening of the skin, which can present as a rash and feel hot and irritable

- **Mild Erythema with no Symptoms** – requires no treatment other than keeping the area soft and supple with AQUEOUS CREAM;
- **Erythema with Mild discomfort and/or itch** - treat with AQUEOUS CREAM for discomfort;
- **Moderate to severe Erythema** - as above. However if not resolved with aqueous cream alone HYDROCORTISONE CREAM 1% should be prescribed and used sparingly twice a day on affected areas using aqueous cream at other times.

B. Dry Desquamation

Dry, flaky or even peeling skin, as well as some irritation;

Treatment should be as for Erythema.

C. Moist Desquamation – skin peeling or denuding with exudates, often white or yellow.

Radiation Induced moist desquamation is a wound and should be treated as such. Therefore the principles of evidence-based wound healing should be applied.

Most outer dressings have to be removed prior to radiotherapy, which can cause trauma of the skin. Always avoid using an adhesive dressing as further trauma to the area being treated must be avoided to prevent exacerbation of the reaction.

Treatment for moist desquamation is dependent on the volume of exudates:

- If superficially moist a Hydrocolloid Gel should be applied i.e. Intrasite Gel;
- If area is producing a large amount of exudates, Aquacel should be applied. Aquacel dries the affected area by using the moisture from the wound to produce a gel effect

If there are signs that an infection is present:

- A bacteriological swab should be taken to establish whether an infection is present;
- Flamazine Cream can be applied once per day or twice per day if exudates is heavy and stopped when signs of infection are no longer evident;
After Radiotherapy

Symptoms may persist or worsen and new side effects may appear. It is often at the end of radiotherapy that reactions are at their peak. The guidelines for skin reactions should be utilised for approximately 4-6 weeks after completion of Radiotherapy.

Treatment Guidelines

AQUEOUS CREAM – an effective agent to keep skin soft and supple reducing skin dryness and irritation. More expensive creams e.g. E45, Diprobase have been shown to be NO MORE beneficial or effective than simple aqueous cream.

HYDROCORTISONE CREAM 1% - an effective topical agent to reduce irritation and inflammation. However, the continued use of hydrocortisone cream should be re-evaluated after 7 days of use.

N.B. TOPICAL STEROIDS SHOULD NOT BE USED ON INFECTED SKIN – they may mask the clinical signs and symptoms of infection and allow the infection to become more severe.

Both Aqueous Cream & Hydrocortisone cream can be used during and on completion of Radiotherapy.

FLAMAZINE CREAM – contains Silver Sulphadiazine, which is recognised as effective in the treatment of infection in BURN wounds, leg ulcers and pressure sores. However, in the field of radiotherapy there is NO proven evidence for its use. It is indicated for full thickness burns only. This product should not be used in the absence of PROVEN INFECTION and its use limited. It is expensive and its silver content could cause problems whilst on radiotherapy as other metal containing products.

COMPOUND BISMUTH SUBNITRATE CREAM – currently there is no literature available to support the use of this product. However, it is acknowledged that its preference over aqueous cream is due to its richer consistency and its moisture retaining properties. It is commonly used on completion of radiotherapy for Dry Desquamation ONLY and is applied to the affected area twice daily.

N.B. Patients who have ever used this product require ‘24 hour patch testing’ on unaffected skin due to potential lanolin sensitivity. In a minority of cases a patient’s skin may become inflamed – Bismuth should then be discontinued immediately and the patient re-evaluated.

REFERENCES:

8.3 Radiotherapy Skin Care cont.