

Radiation Dermatitis in Breast Cancer Patients

- Radiation dermatitis (RD) is a common adverse effect of radiation treatment (RT).
- **95% of breast cancer RT patients experience radiation induced skin reactions**, such as erythema, pruritis, pain and edema¹. 33% of post-mastectomy radiotherapy patients experience severe dermatitis including burn wounds.
- **Strong evidence, including RCTs^{2,3} and meta-analysis⁴, has emerged on the uniquely protective effect of a soft silicone film dressing**, if applied prior to the first RT treatment and monitored and maintained across all RT treatment weeks.
- Despite level 1 evidence⁴ and recommendation in some guidelines⁵, film usage remains low in many radiation treatment centers. Hindered patient access is partly due to resource constraints and a lack of education, i.e. limited availability of clinicians and patient caregivers trained in the film application procedure. This educational video initiative aimed to address that challenge.

Methods

- A multi-national team of radiation oncologists, radiation technologists, and wound clinicians, with direct experience of film usage, shared experiences with optimization of film use across patients of various body types and healthcare systems. This resulted in a step-by-step guide that was used as a script.
- Using a patient volunteer, two **6-minute videos** were created to visually demonstrate and describe film application:
 - one directed towards **wound clinicians** without prior experience of application, and
 - the other directed to **patients and caregivers** who would apply the film at home, without clinician assistance.

The multi-national team reviewed the videos and will monitor impact on their patient population.

Videos to Educate Clinicians and Caregivers on Protective Soft Silicone Film Application Prior to RT

The **resulting step-by-step videos** are freely available for online access (YouTube) and are being widely distributed in some countries (e.g. Canada). These can be accessed from the QR codes below. Excerpts of the videos are highlighted here, to demonstrate application considerations.

Videos walk viewers through key application information:

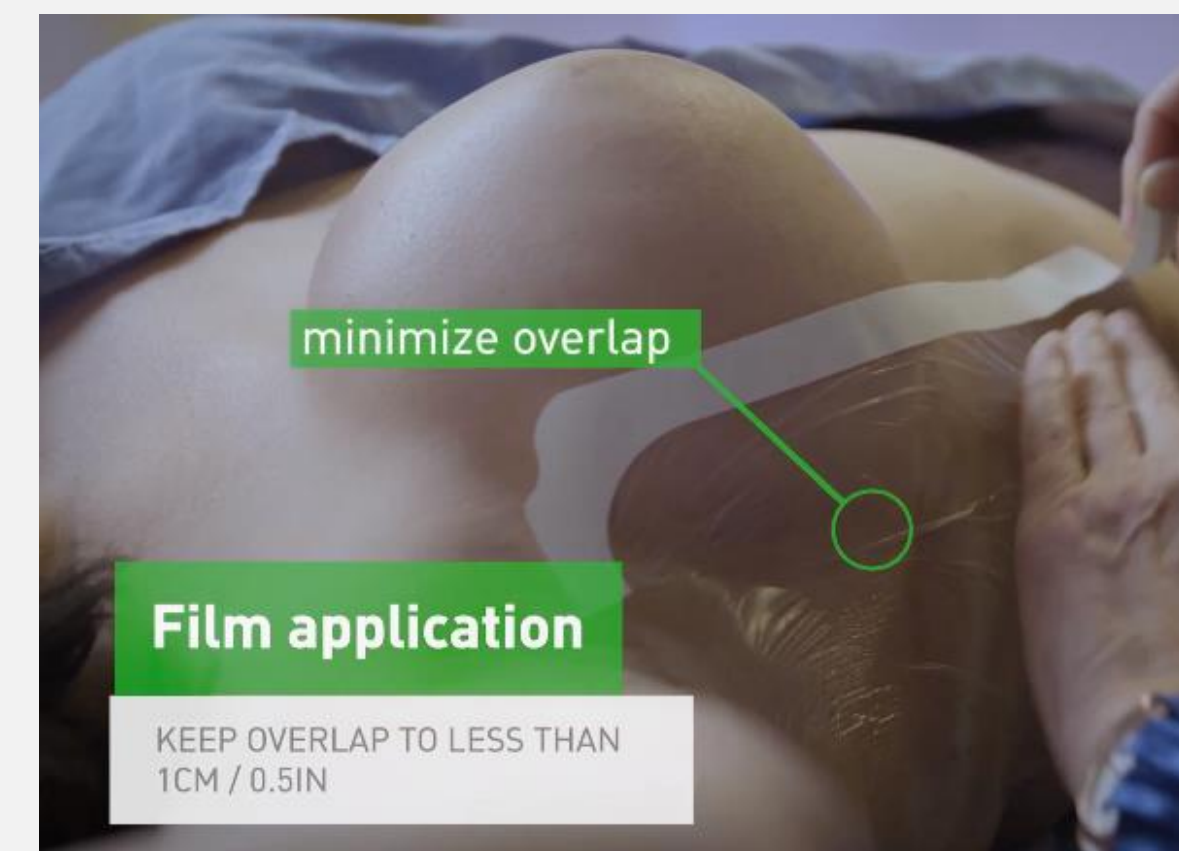
- Timing (apply the day before radiation treatment begins & keep on through RT duration)
- Need for clean & dry skin (avoid deodorants & lotions)
- Supplies needed for application (e.g. specific sizes of silicone film, scissors)
- Where to apply the film and how to smooth
- Minimizing film strip overlap
- Special placement considerations post a complete mastectomy
- How to patch film if sections lift
- How to remove film post RT and wash area
- Importance of re-applying film to keep on for 2 weeks post RT



Patient positioning during application



Location to apply & how to smooth film strips



Minimizing overlap to less than 1 cm



How to patch & tips to avoid film lifting



Covering entire region

Video Access



Clinicians



Patients & Caregivers

Results and Next Steps

- To date, these videos have been **viewed over 1700 times** across numerous countries.
- Cancer societies (e.g. Canadian Cancer Society) have contributed to distribution.
- Initial **feedback from patients has been positive**, and a trend in reducing clinician face-to-face time with the patient regarding film application has been observed.
- Translation of the videos into other languages is ongoing.
- The multinational team will continue to monitor impact on their patient population as this evidence-based RT prevention approach becomes more widespread.

References

1. Burke et al. (2022). Radiation induced skin reactions during and following radiotherapy: A systematic review. *Radiography*,28,232-239
2. Herst et al. (2014). Prophylactic use of Mepitel Film prevents radiation-induced moist desquamation in an inpatient RCT of 78 breast cancer patients. *Rad Onc*
3. Behroozian et al. (2022). Mepitel film for the prevention of acute radiation dermatitis in breast cancer: A randomized multicenter open label phase III trial. *J Clin Oncol*.
4. Shariati et al. (2023). Mepitel film for the prevention and treatment of acute radiation dermatitis in breast cancer: a systematic review and meta-analysis of RCTs. *Supportive Care in Cancer*.
5. Hill, R. (2022, Oct.) Are you following the newly revised clinical practice guidelines for prevention of radiation dermatitis? A case series presentation. Poster session presented at Wounds Canada meeting, Toronto.

Disclaimer: This educational initiative was conducted outside the US. Use of the soft-silicone film for the prevention of RD has not been reviewed or cleared by US FDA.

Acknowledgement and appreciation to the breast cancer survivor who volunteered to be the model for these videos.