

# Optimal Topical Agent for Radiation Dermatitis During Breast Radiotherapy: A Pilot Study

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**Background:** Women receiving radiation to the breast will likely be recommended to use a topical cream to minimize and delay the development of radiation dermatitis. Although many topical products are commercially available and have been tested for safety and efficacy, few studies have compared various products to one another for superiority and cost effectiveness.

**Objectives:** The purpose of this pilot study was to compare three commonly used skin care products prospectively to one other in a homogeneously controlled group of women undergoing whole breast irradiation to assess superiority in minimizing the common toxicity criteria grade of radiation dermatitis, effect on quality of life, and cost.

**Methods:** The authors conducted a systematic review to determine the three types of skin care products with the strongest evidence of minimizing radiation dermatitis. Patients were voluntarily enrolled and randomized to one of three possible skin care topical regimens. Patients completed a quality-of-life survey to assess their preference in topical skin care regimen. The cost of each arm's topical product was assessed at the completion of patient participation.

**Findings:** No statistical difference was noted in the severity or occurrence of radiation dermatitis among the groups. In addition, no statistical difference was found among the three treatment arms in quality-of-life score changes, and no patients required a treatment interruption in their radiation or in the skin care product during treatment. A cost difference among the treatment arms was noted.

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About 231,840 new cases of invasive breast cancer will be diagnosed among women in the United States in 2015 (American Cancer Society, 2015). The majority of women with breast cancer receive some form of systemic therapy (e.g., hormonal therapy, chemotherapy). Local treatment for breast cancer includes either mastectomy, with or without reconstruction, or breast-conserving surgery (BCS) followed by whole-breast irradiation (WBI). High-level evidence shows that, for women with early-stage breast cancer (0-II), either mastectomy or BCS with WBI

yield equivalent survival rates (National Comprehensive Cancer Network [NCCN], 2008).

Women with breast cancer experience a myriad of symptoms related to their treatments. This pilot feasibility study focused on exploring how different skin care agents used in radiation treatment fields may delay and/or minimize the severity of radiation-induced dermatitis (RID) related to WBI delivered after BCS. About 90%–100% of women receiving WBI postlumpectomy experience some degree of radiation dermatitis, ranging from mild grade 1 (faint erythema and/or dry desquamation) to