

**RADIATION EFFECTS ON THE SKIN CAN BE REDUCED  
— & TREATMENT KEPT ON SCHEDULE —  
BY FOLLOWING THE SCIENCE.**



**BECAUSE  
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### **RADIATION TREATMENT IS WIDESPREAD & EFFECTIVE.**

Radiation therapy is a well studied, long-proven and commonly used modality for the treatment of cancer. According to the American Society for Radiation Oncology (ASTRO), nearly two-thirds of patients with cancer will receive radiation treatment. ASTRO further asserts that, in 2004, this represented more than 23 million treatments delivered by more than 2,000 facilities to roughly 1 million patients. Of these, about 88 percent of were treated with external-beam radiation.

### **RADIATION AFFECTS THE SKIN, WHICH CAN DELAY TREATMENT.**

One of the most common side effects of external-beam radiation therapy is an acute skin reaction, radiation dermatitis, which can range from a mild rash to severe ulceration.<sup>1</sup> About 85 percent of radiation therapy patients will experience moderate to severe radiation dermatitis.<sup>1</sup> Skin reactions like these can be painful, itchy and unsightly. Worst of all, they can force interruptions in treatment in order to give the skin time to recover. Because treatment breaks can increase the risk of local cancer recurrence, avoiding them is crucial during radiation therapy.

### **TO PROTECT THE SKIN, PROVIDERS USE MANY METHODS.**

In response to the problem of radiation-induced dermatitis, treatment centers and specialists recommend a wide variety of methods to prevent and manage adverse skin reactions.<sup>1</sup> Of these, petroleum-based topical agents are quite commonly recommended and used. But this is problematic, because studies have shown that petroleum-based products provide no clear benefit in the prevention or management of radiation toxicity to the skin.

### **PETROLEUM PRODUCTS, THOUGH WIDELY USED, AREN'T SUPPORTED BY THE SCIENCE.**

In a small study of breast-cancer patients who received chest wall irradiation, petrolatum gel showed no significant benefit over those patients who had received no topical treatment.<sup>2</sup> In a larger Phase III study of women undergoing radiation treatment of the breast, petroleum-based topical treatment demonstrated no benefit as a prophylactic agent for radiation-induced skin toxicity.<sup>3</sup> At the same time, buildup of petroleum product at the skin may have some potential to increase the radiation dose to the skin, which could increase skin toxicity, adverse skin effects and risk of treatment delays.

### **EVIDENCE SHOWS THAT AQUEOUS CREAM HELPS.**

Aqueous cream, a light paraffin-based emulsion, has long been used as a topical medicine and emollient moisturizer. And its usefulness for treating and protecting skin from the effects of radiation is supported by science. In a Phase III study of 225 breast-cancer patients, those women who applied a topical aqueous cream throughout radiation treatment and for two weeks afterward experienced much less dry desquamation (dryness, scaling and itchiness) than those who used aloe vera.<sup>4</sup> The researchers concluded that aqueous cream was useful in reducing both dry desquamation and pain associated with radiation treatment.<sup>4</sup>

## MIADERM: SCIENTIFICALLY FORMULATED TO PROTECT THE SKIN & AVOID TREATMENT BREAKS.

Made of an aqueous cream base, Miaderm® Radiation Relief Lotion is designed specifically to reduce the effects of radiation on the skin and soothe and restore radiation-damaged skin. Developed by radiation oncologists, Miaderm also contains other key ingredients shown through Phase III research to reduce the occurrence and severity of radiation dermatitis, including:

**CALENDULA** – In a study of radiation therapy patients, application of calendula ointment resulted in far fewer occurrences of dermatitis than in the group using a traditional substance.<sup>5</sup> Calendula users also experienced less radiation-induced pain and fewer breaks in treatment.<sup>5</sup>

**HYALURONATE** – In another study of radiation therapy patients, hyaluronate cream significantly reduced the incidence of high-grade skin reactions, delayed their onset and reduced their severity.<sup>6</sup> The study also noted hyaluronate's association with faster recovery from skin symptoms.<sup>6</sup>

**ALOE VERA** – In a third study, patients who applied aloe vera after applying a mild soap solution experienced initial skin irritation two weeks later than those who used the soap but not the aloe.<sup>7</sup> The study noted that this suggests aloe vera may have a protective effect.<sup>7</sup>

## CONCLUSION.

A common treatment for cancer, radiation therapy does cause adverse effects to the skin. These effects can force delays in the radiation therapy, which increase the risk of local cancer recurrences. For this reason, providers use a variety of methods to protect the skin... including some — particularly petroleum-based products — that have no scientifically demonstrated benefit.

Developed by radiation physicians who followed the science, Miaderm uses not petroleum as its base but, rather, evidence-supported aqueous cream. Also, Miaderm contains other key ingredients that science has shown can help prevent or delay the onset of radiation dermatitis, which can help prevent treatment breaks.

**RESEARCHERS  
CONCLUDED  
THAT AQUEOUS  
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