



## WEB EXCLUSIVES

# Afterburn

BY MELISSA WEBER

*Calming the effects of radiation on the skin.*

Erica Griffin had entered the home stretch. She'd made it to her sixth and final week of radiation therapy for stage 3 breast cancer without any side effects. "I thought I was going to skate right on through with nothing," says Griffin, 33, of Van Buren, Mo.

With only a handful of radiation treatments left, what Griffin describes as "a really bad sunburn" appeared under her arm and breast. Everyday routines of wearing a bra and shirt became difficult.

Although not inevitable, many cancer patients receiving radiation therapy will experience skin toxicities during treatment, says Peter B. Schiff, MD, PhD, vice chairman of the department of radiation oncology at NYU Clinical Cancer Center. Redness, swelling, dryness and itching of the skin are the most common problems, although some patients may experience more serious reactions, such as moist desquamation, which is wet, peeling skin that may be prone to wounds and infection.

Radiation therapy causes skin problems by creating "free radicals" that alter the cells and tissues, causing changes in the top (epidermal) and middle (dermal) layers of the skin. When the skin becomes damaged by radiation or any type of trauma, naturally occurring proteins called cytokines help heal and repair the damage. But this process often breaks down while a patient receives radiation, says Tracy Gosselin, RN, associate chief nursing officer of oncology services at Duke University Hospital.

The skin's reaction to radiation can depend on the part of the body being treated. Problems are more common in moist, friction-prone skin folds, such as the armpit, groin and under the breast. Breast cancer patients, particularly those with large breasts, should minimize moisture under the breast by avoiding friction and keeping the area clean and dry, says Gosselin.

Plus, the type of cancer matters. A radiation beam aimed at a prostate tumor deep within the pelvis does little damage to the skin, whereas radiation targeted at a melanoma tumor on the skin itself or at a tumor near the skin's surface isn't merely a passerby. "The skin may be getting a different dose depending on what

site is being treated,” says Schiff.

Skin changes can occur as early as one to two weeks after starting radiation therapy, says Gosselin. When Griffin’s skin reaction developed near the end of treatment, the mother of three used the ointment Aquaphor for about two weeks until it healed.

Other treatments include Biafine cream, RadiaPlex gel and plant-based options such as aloe vera, calendula cream and shea butter. The Food and Drug Administration also just approved Epicyn HydroGel to relieve the itching and pain associated with skin reactions caused by radiation.

For the more severe moist reactions that can cause sores and infections, Schiff suggests Aquaphor with an anesthetic, Silvadene cream or special wound dressings, such as Vigilon, that protect the skin and create a moist environment for the skin to heal. A break in treatment may be recommended if the moist area is large enough, Schiff says.

But serious skin reactions occur less often today, he points out. “Over the last decade, as the targeting of radiation has become more precise and we use image guidance more and more, we are treating less normal tissue, including less skin,” he says.

The skin typically heals within a few weeks after completing radiation, although in some cases the treated skin will be darker than it was before. Radiation may also leave some patients with fibrosis, or thickening of the skin, which makes the skin less elastic. Once researchers pin down how fibrosis occurs and the best way to measure skin elasticity, Schiff says therapies can be developed to prevent and treat the late effect.

Another possible, though relatively uncommon, late effect of radiation known as telangiectasia results in the permanent growth and dilation of small blood vessels that appear through the skin. These harmless “spider veins” may appear within six months of completing radiation. In some cases, they may take years to develop. Rarely, damage to the bone and, even more rarely, secondary cancers like angiosarcoma can develop in radiated areas.

To manage radiation’s collateral damage to the skin, Gosselin and Schiff offer the following dos and don’ts:

- Avoid extreme temperatures on the area being treated. Don’t use a heating pad or ice pack, and wear protective clothing during the winter months.
- Do not wear clothes that are tight or made from abrasive fabrics such as wool. A breast cancer patient, for example, can wear a cotton tank top instead of a bra. A loose-fitting sports bra could offer more support if needed.
- Avoid tanning beds and protect the treated area from direct sunlight with clothing or a hat. The skin will remain sensitive to sunlight following treatment, so it’s important to use sunscreen with an SPF of at least 30 both during and after radiation therapy, preferably lifelong.
- Do not scrub the skin with a washcloth or loofah. Gently clean the area using warm water and a mild soap, and pat dry.

- Use only an electric razor if shaving the treated area is necessary.
- Tell your radiation oncologist which chemotherapy drugs you've received. Chemotherapy sensitizes the cancer cells to the effects of radiation, but certain drugs also sensitize normal, healthy tissues within the radiation beam area. Examples include 5-FU (fluorouracil), Xeloda (capecitabine), Adriamycin (doxorubicin) and taxanes (Taxotere [docetaxel] and Taxol [paclitaxel]).
- Do not use perfumes, cosmetics or deodorants on the skin in the treatment area. Use only skin products recommended or prescribed by the doctor or nurse.
- Do not put adhesive bandages on the treated area of the skin. Use only non-stick pads, such as telfa.
- Alert the doctor or nurse of any skin changes you notice.