

# Skin Cancer Patients Have More Treatment Options

Science is discovering new ways to attack cancer cells on different fronts. Since 2011, the Food and Drug Administration (FDA) has approved five drug treatments for melanoma and other skin cancers, giving patients more options to meet their specific needs. Today, patients have better treatments, better outcomes and a longer life.

May is Skin Cancer Awareness Month and a good time to raise awareness about innovations in cancer treatment.

## Skin Cancer Rates Are Rising

There are three main types of skin cancer: basal cell carcinoma, squamous cell carcinoma and melanoma. Although less common, melanoma is the most aggressive and dangerous.

In the United States, skin cancer rates are rising. The National Cancer Institute estimates that in 2014, there will be:

- 76,100 new cases of melanoma and 9,710 deaths.
- 2 million new cases of nonmelanoma skin cancer, with fewer than 1,000 deaths.



Cancer begins in the cells. When normal cells grow old or damaged, they usually die, and new cells replace them. With cancer, new cells grow when they're not needed, and old or damaged cells don't die when they should—forming a mass of tissue (a growth or tumor). Skin cancer can invade normal tissue and spread throughout the body.

Treatments to remove or destroy the disease completely depend on the type and stage of cancer. Before 2011, only five drugs were approved by FDA for treating melanoma.

Most were standard chemotherapy drugs that shrank the tumors but

were effective in less than 15% of patients, says Patricia Keegan, M.D., an oncologist with FDA. "Most people who took those drugs didn't get much benefit from them," she adds.

Since 2011, FDA has approved two melanoma drugs and one treatment combination – Zelboraf (vemurafenib), Tafenlar (dabrafenib), and Mekinist (trametinib) in combination with Tafenlar—that in clinical studies shrank tumors in about half the patients. For Zelboraf and another new melanoma drug, Yervoy (ipilimumab), patients using the drugs lived longer than if they received traditional chemotherapy, Keegan says.

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### New Hope for Melanoma Patients

Yervoy is a new class of immune therapy approved for treatment of patients with melanoma that cannot be removed with surgery and is not limited to melanoma with certain gene mutations. It blocks the molecule cytotoxic T-lymphocyte antigen (CTLA-4) and helps the body’s immune system to recognize, target and attack cells in melanoma tumors. Scientists have been trying to harness this ability for more than 100 years, Keegan says.

“We’ve had a lot of experience with tumor vaccines, hoping the patient’s body will attack the cancer as it would foreign bacteria. But most have been unsuccessful until now,” Keegan says.

Yervoy doesn’t actually attack the tumors. Instead, it helps the body’s white blood cells recognize tumor cells as foreign and reject them.

Zelboraf, Tafinlar and Mekinist are personalized medicines (health care customized at the molecular level) used to treat patients with melanoma whose tumors have the BRAF V600E gene mutation. They keep tumors from growing by blocking the mutated BRAF gene.

### What’s driving these advancements?

“The science is targeting driver mutations—abnormal genes of cancer cells that make tumors grow uncontrollably—and designing drugs

that block them,” Keegan says. “It’s not always effective because tumors often find a back door when you shut down one path. So scientists are working on multiple therapies that work together to block various pathways.”

Combating cancer growth is like building a dam to control water flowing down a hill, Keegan says. The water (or cancer) will find another path. “That’s why we need several controls working together to prevent cells from multiplying and spreading,” she explains. “If you block only one path, the cancer might find a side route.”

That’s the case with a combination drug therapy approved by FDA in January 2014. Mekinist and Tafinlar jointly treat patients with advanced melanoma that is metastatic (late stage) or can’t be surgically removed. These drugs block signaling in different sites of the same molecular pathway promoting cancer cell growth.

### Another Breakthrough

FDA has also approved the first drug for treating metastatic basal cell carcinoma: Erivedge (vismodegib). For a small fraction of the population, this cancer is very serious. Doctors often can’t cut out certain tumors—maybe because they’re on the face, head, nose or eyelid—and patients end up with disfiguring lesions. People with Gorlin syndrome—a rare form of skin cancer that can involve

many parts of the body—are especially vulnerable because their cancer often returns or spreads.

Erivedge could give these patients options they never had before by shrinking their tumors and allowing them to control their lesions for months at a time, Keegan says.

“As oncologists, we’re still learning the best way to use Erivedge to control these really difficult lesions,” Keegan says. “The drug is effective for 30% to 40% of patients, but for them it’s a breakthrough because they have run out of options.” 

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