

Scientists Figured Out How to Treat a Deadly Form of Cancer With a Band-Aid. Here's What Experts Want You to Know.

- *Skin cancer is the most widespread cancer in the country, with melanoma being the deadliest form of the disease.*
- *Scientists have discovered a potential new treatment that would not involve potentially scarring surgery.*
- *Dermatologists weigh in on what this means for the future of cancer care in the United States.*

As the most common cancer in the United States, [skin cancer](#) will afflict one in five Americans in their lifetime, according to the [American Academy of Dermatology](#). It's deadliest form, melanoma, affects nearly one million people, but it is treatable if it's caught early enough. Unfortunately, treatment usually involves removing the cancer and the surrounding skin, which can leave people with noticeable scars.

But preliminary research suggests that future treatment for early melanomas may be as simple as plopping on a special bandage and letting it get to work. Of course, there's a lot that needs to happen to get to the point where doctors will recommend using a high-tech bandage to treat cancer. But dermatologists who treat melanoma say the early results are promising. Here's why.

Meet the experts: [Gary Goldenberg](#), MD, assistant clinical professor of dermatology at Icahn School of Medicine at Mount Sinai Hospital; [Ife J. Rodney](#), MD, founding director of Eternal Dermatology + Aesthetics

What did the study find?

For the research, published in [ACS Nano](#), scientists created a stretchy, heat-activated laser-induced graphene patch similar to a bandage. The patch's pores were filled with copper oxide and embedded in a stretchy silicone polymer to create a Band-Aid-like device. When the bandage is activated, it releases copper ions that kill underlying cancer cells and prevent them from spreading. Why copper? The researchers found that it can interfere with cancer cells' DNA and kill them through oxidative stress. The copper may also spark an immune response that would tamp down on tumor cell migration into other parts of the body.

The researchers placed the patch over melanoma cells that were cultured in a lab and warmed the patch to 108 degrees with a low-powered laser. The patch then released copper ions into the melanoma cells beneath it, killing most of the cultured cells and slowing cell movement.

From there, the scientists did a 10-day study where they placed the patches on mice with melanoma. On days one through five, the patches were activated with a laser for an hour. The researchers discovered that the treatment reduced melanoma lesions by 97 percent. After analyzing tissue samples, the researcher found that cancer cells didn't migrate beyond the tumor borders, and that the copper ions didn't build up in the organs or blood.

Another big draw of this, beyond the simple-to-apply patch form: It helped reduce melanoma lesions without damaging the surrounding tissue. The results suggest that this high-tech patch could one day be an effective form of treatment for melanoma lesions, the researchers wrote in the conclusion.

Is there a need?

“Melanoma is one of the deadliest cancers and one of the most aggressive skin cancers,” explains [Gary Goldenberg](#), MD, assistant clinical professor of dermatology at Icahn School of Medicine at Mount Sinai Hospital.

“While treatments are improving, the number of cases of melanoma is increasing and more treatment options are needed.”

Non-invasive, localized treatments like a patch could tamp down on how many people need surgery and help stop the cancer from spreading in superficial melanoma lesions, Dr. Goldenberg says.

[Ife J. Rodney](#), MD, founding director of Eternal Dermatology + Aesthetics, calls the findings “very promising.” “I love the idea that it’s targeted and selectively kills the melanoma cells while not damaging the surrounding tissue,” she says.

Keep this in mind when it comes to melanoma.

This patch is still in development and needs to go through extensive testing in humans before it’s ready for the general public. For now, there are a few things you can do to lower the odds of developing and dealing with serious complications of melanoma.

“Prevention and early detection are still the name of the game,” Dr. Goldenberg says. Prevention is largely accomplished by combining sun protection using a [sunscreen with FDA-approved ingredients](#) with regular visits to your dermatologist to check for abnormal spots.” Below, some sunscreens recommended by dermatologists and *Women’s Health* editors.

Dr. Rodney underscores the importance of getting any new or changing spots checked out by a dermatologist. “Not all melanomas are brown,” she warns. “It can even be a pink new spot on your skin that’s not going away.”

Goldenberg is hopeful that more melanoma treatments like this are on the horizon—but stresses that early action is crucial. “While treatments are improving, far too many patients are still diagnosed with melanoma annually and die from metastatic disease,” he says.

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