

Are cooling caps the solution to prevent hair loss during chemotherapy?

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UCLA's Dr. Sara Hurvitz. Credit: University of California, Los Angeles

Hair loss—one of the most-feared side effects of cancer treatment—may have met its match. Scientists have known since the 80s that cooling a person's scalp can prevent significant hair loss during

chemotherapy. A cooling device called DigniCap was approved for women with breast cancer by the U.S. Food and Drug Administration in 2015. This cap was tested in a clinical trial at UCLA led by Dr. Sara Hurvitz, director of hematology and oncology breast cancer program at UCLA's Jonsson Comprehensive Cancer Center.

Two studies published this month in the *Journal of the American Medical Association* found that the cap was effective; results showed that women lost less than 50 percent of their hair. The trial Hurvitz participated in paved the way for physicians to help people with cancer overcome one of the most visible signs of treatment.

How did scientists come up with the idea of cooling the scalp to help save the hair of a woman who has cancer, and how long did the development process take?

The idea to cool the scalp during [chemotherapy](#) infusion to reduce [hair loss](#) is not a new one. It has been in place for over three decades and evaluated by several other companies. There are other devices in use clinically. This is the first one to be FDA approved.

How did your research play a role in the FDA approval of this cooling cap?

We participated in the clinical trial that led to the FDA approval of this device. We enrolled and treated multiple patients on this study who were undergoing standard chemotherapy for early stage [breast cancer](#).

How does the cooling cap actually work?

Cooling the scalp slows down blood flow to the hair follicles during the infusion of chemotherapy, which in turn limits the delivery of chemotherapy to the scalp. This lessens the toxic effects of

chemotherapy on the hair follicle, thus limiting hair loss. Several devices utilize ice caps that are cumbersome to store and to manage. The device we evaluated is a tight-fitting cap, much like a bathing cap, that is attached to a cooling machine and worn during chemotherapy and for an hour or two after chemotherapy. This machine avoids the need to use a freezer or change caps during treatment.

Why do you think this cooling cap is beneficial for women going through treatment?

Hair loss from chemotherapy causes a major impact on quality of life for many women with early stage breast cancer. The hope is that reduction in or prevention of hair loss will reduce the emotional stress associated with a cancer diagnosis.

Why is it that some women still lose their hair after using the cooling cap?

Hair loss is not completely prevented in the majority of patients with scalp cooling, but half of patients are able to keep more than 50 percent of their hair with cooling (whereas nearly all patients who take curative chemotherapy without cooling cap use will lose over 50 percent of their hair). This allows a woman to look more like herself during chemotherapy. Hair also tends to fill in and look normal more quickly after chemotherapy has completed, compared to women who did not use scalp cooling.

What is the future of the cooling cap and could it prevent hair loss in people with other cancer types as well as men who have cancer?

Different devices are being evaluated in clinical trials in a variety of cancer types. This could certainly be utilized by male [cancer](#) patients as well.

Provided by University of California, Los Angeles

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