

## 'Cold caps' may halt hair loss in breast cancer patients: study

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Woman wearing 'cold cap' Photo: Baylor College of Medicine

(HealthDay)—Cooling the scalp with a specialized cap during

chemotherapy sessions could help breast cancer patients avoid treatment-related hair loss, new research suggests.

In a clinical trial involving women with early stage [breast cancer](#), just over half who underwent scalp-cooling throughout at least four cycles of chemotherapy retained their hair, though some thinning may have occurred.

"When you lose your hair, everyone knows you're sick and looks at you differently," said study author Dr. Julie Rani Nangia, explaining the potential impact of cold cap use.

Nangia is an assistant professor of medicine at the Lester and Sue Smith Breast Center at Baylor College of Medicine in Houston.

The study was funded by the manufacturer of the cold caps, Paxman Cooling. The devices are known as the Orbis Paxman Hair Loss Prevention System. The company is now seeking U.S. Food and Drug Administration clearance for their cold caps.

Nearly 247,000 women have been diagnosed with breast cancer in the United States this year, according to the American Cancer Society. There are also about 2.8 million [breast cancer survivors](#) in the United States.

Treatment depends on the stage and aggressiveness of a patient's cancer. Treatment can include surgery, chemotherapy, radiation and/or hormone and targeted therapies.

Nangia and her team enrolled 235 women with stage 1 or stage 2 breast cancer who were planning to receive at least four cycles of anthracycline- or taxane-based chemotherapy. Those chemotherapy drugs, like others, can lead to [hair loss](#) because they attack rapidly

dividing cells, which include cancer cells but also hair follicles.

Scalp cooling, more commonly used in Europe, is believed to reduce hair loss by lowering the temperature of the scalp, reducing blood flow to hair follicles. Another brand of cold cap known as the DigniCap was cleared for use in the United States by the FDA in December 2015.

In the new study, participants were split into two groups. One group included two-thirds of the women. This group received scalp cooling. The other third received no cooling.

After four cycles of chemotherapy, 50.5 percent of patients in the cooling group experienced hair preservation, compared with none in the non-cooling group, the study findings showed.

Fitted to a patient's head, the cold caps were in place 30 minutes before chemotherapy began, for the entire chemotherapy session, and for 90 minutes after chemotherapy, Nangia explained. The cold cap cooled patients' scalps to 64 degrees, she said, and side effects were mild, including headache and discomfort.

"The big downside is it adds an hour onto [total] [chemotherapy](#) time," Nangia said. She noted that the difficulty of perfecting the fit of a cap to each patient's head may have influenced how effectively it thwarted hair loss.

Scalp-cooling technology has been used during treatment for other solid tumor cancers in other countries, but isn't recommended for patients with blood cancers because it constricts blood vessels. Women in this study will be tracked for the next five years to monitor overall survival, any cancer recurrence and potential spread of cancer to the scalp, Nangia said.

Susan Brown is managing director of health and science education for the nonprofit breast cancer advocacy group Susan G. Komen. She said she was somewhat surprised by the study findings, noting that other research on cold caps has produced "varying degrees of success in hair retention."

Brown said the cost of cold caps—which can exceed \$1,000 per patient, according to Nangia—might pose an obstacle for some patients. Wigs are likely cheaper and sometimes paid for by grants and other funding sources, Brown added.

But Brown believes cold caps could be an important option for women with breast cancer, though probably not all would want to use them.

"If women don't have to lose their hair, it helps them personally and emotionally, and leaves it to them to share their story if they want to," she said.

The study was scheduled for presentation Friday at the San Antonio Breast Cancer Symposium in Texas. Research presented at scientific meetings typically hasn't been peer-reviewed or published, and results are considered preliminary.

**More information:** The American Cancer Society has more on [cold caps](#).

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