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Device to Prevent Cancer Patient Hair Loss Being Tested at UCLA

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FACULTY [Sara Hurvitz](#)



UCLA cancer researcher Dr. Sara Hurvitz

IN BRIEF

Hair loss is the most visually prominent side effect of chemotherapy

DigniCap® system cools patient's scalp during chemo

Scalp cooling reduces amount of drug that reaches hair follicle, reducing damage

FDA has approved DigniCap® for clinical trial in the U.S.

Research physicians at UCLA's Jonsson Comprehensive Cancer Center have begun a clinical trial on a new device that promises to reduce hair loss of patients receiving chemotherapy for breast cancer. The apparatus, called the DigniCap® System, works by cooling the patient's scalp.

The clinical trial will be led at UCLA by Dr. Sara Hurvitz, assistant clinical professor of hematology/oncology and director of the breast cancer program.

Often the emotional strain of a breast cancer diagnosis is made worse by the effects of the chemotherapy needed to treat the disease. Most visually prominent among those effects is hair loss. The societal stigma and emotional trauma of losing their hair has even caused some women to avoid recommended treatment of their cancer.

“The success of the DigniCap® System could give us a tool that improves quality of life for breast cancer patients during the worst part of their treatment, thus could improve the overall cancer treatment experience,” Hurvitz said.

The DigniCap® consists of a silicone cap (rubber similar to a bathing cap) that fits tightly on the patient’s head and over that an outer neoprene cap (the material wetsuits are made from) that insulates and secures the silicone cap. Both caps are connected to a cooling and control unit that circulates a special coolant throughout the inner cap to consistently lower the temperature of the patient’s scalp to just above freezing. This is done gradually to relieve discomfort.

The system is used to cool the patient’s scalp while they are receiving chemotherapy drugs. When the temperature of the scalp is lowered, the blood vessels around the roots of the hair contract, or grow smaller. That contraction reduces the blood flow to the hair follicles, so less of the drug can reach them. Normally the drug would damage the follicles and make the hair fall out. The reduced blood flow from the scalp cooling reduces the amount of drug that reaches the follicle, thus reducing or eliminating damage to the hair follicle and preserving the patient’s hair.

“Clinical trial data from Europe and Asia has shown that eight of ten women who used this system were able to retain their hair during breast cancer chemotherapy,” Hurvitz said, “now that the FDA has approved it for trials in the United States we have high hopes for helping patients deal with the mental and emotional strain that comes with our treatment of their breast cancer.”

To participate in the trial, patients must be at least 18 years old and have a documented diagnosis of Stage I or Stage II breast cancer, and must plan to complete chemotherapy within six months of using standard chemotherapy regimens stipulated in the trial protocol.

UCLA's Jonsson Comprehensive Cancer Center has more than 240 researchers and clinicians engaged in disease research, prevention, detection, control, treatment and education. One of the nation's largest comprehensive cancer centers, the Jonsson center is dedicated to promoting research and translating basic science into leading-edge clinical studies. In July 2013, the Jonsson Cancer Center was named among the top 12 cancer centers nationwide by U.S. News & World Report, a ranking it has held for 14 consecutive years. For more information on the Jonsson Cancer Center, visit our website at <http://www.cancer.ucla.edu>.

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