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### New device may alleviate some chemotherapy side effects

Richmond.com Tuesday, March 08, 2005 Virginia Commonwealth University researchers are evaluating the usefulness of an electrical stimulation device to alleviate some of the side effects of chemotherapy in women undergoing treatment for breast cancer. The pilot study, conducted by the VCU School of Nursing, will enroll about 45 women – all breast cancer patients undergoing chemotherapy treatments – and will evaluate if the Alpha-Stim Cranial Electrical Stimulator can lessen side effects like pain, fatigue, anxiety, depression and insomnia. The Alpha-Stim Cranial Electrical Stimulator is a non-invasive FDA-approved device that uses low levels of microcurrent, electrical currents similar to those found naturally in the body, for symptom reduction. Two lead wires from the pager-sized device are clipped to a patient's earlobes.

VCU's Debra Lyon, the study's lead investigator, said the device produces a micro-current so slight most people don't feel it. While there is no conclusive evidence about how the device works, it is believed that the sub-sensation current creates a homeostatic waveform that normalizes the body's own electrical current. Lyon will randomly assign participants to one of three groups, one with an active device, one with an inactive device and one with no interventions.

"When people have a serious illness such as cancer, they have focused mostly on whether they will live or die, but as treatments succeed and people live longer, quality-of-life concerns become a greater focus," Lyon said in a statement. "There is growing evidence that decreasing the common symptoms associated with chemotherapy treatments will not just add quality of life, but set the stage for the body and the mind to be in the best harmony to fight this disease."

Study participants will be required to wear the device for about one hour a day for a week before chemotherapy and one week after chemotherapy. Blood samples will be collected three times during the study to measure inflammatory markers and serotonin levels, and saliva samples will be collected to determine cortisol levels. Serotonin is a neurotransmitter linked to mood, and cortisol is a steroid hormone associated with body rhythms and immunity.

Collaborators on the study are clinical nurse specialist Ashby Watson, Mary Helen Hackney, associate professor of internal medicine; and Nancy McCain, director of the Center for Biobehavioral Research at the VCU School of Nursing. Hackney and McCain are research scientists affiliated VCU's Massey Cancer Center, the referral site for study participants.

The VCU School of Nursing is a comprehensive nursing school recently ranked 25th in the United States in NIH-funded research. U.S. News & World Report lists it among America's best graduate schools.

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