

Discovering Novel Ways to Treat Impaired Cognitive Function in Cancer Survivors



Rex Philpot

Assistant Professor, Department of Psychiatry and Behavioral Neuroscience

CURRENT RESEARCH

Identifying adverse effects of chemotherapy on the brain will lead to chemo-brain interventions

The number of cancer survivors is rapidly increasing, due to significant advances in cancer treatments. However, many treatments result in long lasting cognitive impairments, which often interfere with a cancer survivor's quality of life. The gradual effects of chemotherapy on the brain function—known as "chemo brain"—can lead to a decreased ability to concentrate, focus, recall important information, and solve complex problems. Dr. Rex Philpot, assistant professor in the department of Psychiatry and Behavioral Neuroscience at University of South Florida, is developing interventions that can treat and prevent these deficits, which will have a tremendous impact on life quality and workplace performance for cancer survivors.

Many cancer survivors live with cognitive impairments as a result of chemotherapy treatment, often without realizing their brain function has gradually changed. Because the effects of cancer interact with chemotherapy and produce effects that cancer drugs cannot produce alone, using animal tumor models is critical for identifying the mechanisms that cause these deficits and for developing effective treatments. Dr. Philpot uses animal models with naturally-occurring cancer, performing a long term evaluation of tumor development, treatment effectiveness, and relapse risk. Currently, he is focused on treating cancers with high survival rates resulting from chemotherapy, particularly breast cancer. As the animal models undergo chemotherapy, Dr. Philpot assesses its effects on cognitive function—including spatial memory, working memory, discrimination learning, and conditional learning—as well as the effects of his treatment intervention on cognition, tumor progression and the effectiveness of...

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AFFILIATION

 University of South Florida

EDUCATION

- Ph.D. in Cognitive Neuroscience, 2004, University of South Florida

RESEARCH AREAS

Life Science, Neurological / Cognitive, Oncology / Cancer, Neurological / Cognitive

FUNDING REQUEST

Your contributions will help fund Dr. Philpot's research in developing cognitive treatments for chemotherapy patients. Each study costs approximately \$24K to assess the effects of chemotherapy and the effect of the treatment intervention on one form of cognitive function. These costs include the purchase of genetic animal models of cancer, that cost \$500/animal and the cost of chemotherapeutics, which cost approximately \$1.5K/study. These funds also contribute to the support of one animal behaviorist (\$50K/year) to perform long term cognitive assessments. Play a role in treating cognitive deficits in cancer survivors; fund Dr. Philpot.

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