

A Randomized Study of the Effects of Two Relaxation Music CDs on Stress Factors in Adult Cancer Patients Receiving Chemotherapy as Treatment for Cancer

Why Does This Study Need To Be Conducted?

- Cancer is the second leading cause of death in the United States. In the year 2006, approximately 1,399,790 new cancer cases will be diagnosed.
- One conventional treatment for adults diagnosed with cancer is chemotherapy, which often produces unpleasant and stressful side effects including nausea, vomiting, fatigue and cognitive deficits.
- New research suggests that 40-80% of cancer patients receiving chemotherapy experience cognitive deficits, commonly called “Chemobrain,” along with emotional and physical stress while undergoing treatment.
- Research has shown that stress can compromise the immune system and therefore may become a significant factor for cancer patients receiving chemotherapy. Stress can directly affect daily functioning during treatment and the longevity and quality of life after treatment.
- A significant percentage (over 40%) of cancer patients seek alternative and adjunct types of therapies. This is slightly higher than the general public (~35%) who currently spend over \$21 billion annually on non-conventional therapeutic treatment modalities.

What Will Be Investigated In This Study?

- A pilot study was conducted by William Collins, Ph.D. using Quantitative EEG to measure brainwave frequencies of 4 women undergoing chemotherapy treatment for cancer. Results indicated that the solo harp CD, *The Magic Mirror* had a direct positive impact on neurological functioning – all subjects’ brainwaves tended to normalize after 10 days of listening to the music. A pilot study measuring immune system biomarkers in saliva indicated *The Magic Mirror* had a positive and sustained effect on the immune system biomarkers measured.
- Our current study measurements will include: 1) Quantitative EEG for neurological functioning; 2) Saliva secretory IgA, IgG, cortisol, secretory carbonic VI, and α -amylase as biomarkers; 3) A short daily questionnaire to track psychological changes; 4) A standardized psychological questionnaire given at the beginning and end of the study to measure psychological state, and daily life functioning; 5) A one-time general questionnaire to determine musical preferences, support systems, personality type and their belief/perception of their situation. 6) A Case Report Form will track gender, the type /stage of cancer and chemotherapy drugs used. 7) A short one-time questionnaire for Groups 1 and 2 describing the participant’s selected listening space. This will offer insight into possible environmental influences that may affect the listening experience.
- 120 adults diagnosed with cancer, who will be undergoing chemotherapy treatment for cancer, will be randomly assigned to 1 of 3 different groups following initial diagnosis:
 - Group 1: will listen to the acoustic harp CD: *The Magic Mirror* (23 mins.) by Amy Camie
 - Group 2: will listen to portions of the acoustic piano CD: *Comfort Zone* (23 mins.) by Steven Halpern
 - Group 3: Control – no music

Initial measurements will be taken prior to chemotherapy treatment to determine a baseline; the second measurements will be taken 2 weeks after they have begun chemotherapy and the musical CD will be given at this time; final measurements will be taken 2 weeks later. This is considered a blind study in that the Research Team will not know to which group the participant is assigned.

Research Team: John Eckardt, MD, Rachel Borson, MD, William Collins, PhD, David Kossor, RPh, PhD, Judy Holt, PhD, Deborah Burnett, ASID - *Scientific Arts Foundation Research Committee:* Asif Anwar, MD, MS; Mary Autrey, MA,OTR/L., Susan Schulte, DSc., Amy Camie

Where Will This Study Be Conducted?

- The Center for Cancer Care and Research under the direction of John Eckardt, MD and the St. Louis Cancer and Breast Institute under the direction of Rachel Borson, MD will enroll patients into this study.
- QEEG measurements, saliva testing and the standardized questionnaire will be implemented at the office of William Collins, Ph.D. Reintegrative Health Institute, LLC, 1610 Des Peres Road, Suite 340, Des Peres, MO 63131

Your financial support will help advance this innovative research that offers hope to all adults undergoing chemotherapy treatment for cancer. Please send your tax-deductible donation to:

Scientific Arts Foundation * 11469 Olive Blvd. PMB 180 * St. Louis, Missouri 63141

To learn more and/or contribute by credit card, visit: www.scientificartsfoundation.org