

Groundbreaking study shows exercise benefits leukemia patients

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One of the most bothersome symptoms of leukemia is extreme fatigue, and asking these patients to exercise doesn't sound like a way to help them feel better.

A new study from the University of North Carolina at Chapel Hill indicates that [exercise](#) may be a great way to do just that, combating the debilitating fatigue that these patients experience.

In a first-of-its-kind clinical trial, a team of researchers from the Department of Exercise and Sport Science and UNC Lineberger Comprehensive Cancer Center have shown that physical activity can significantly improve symptoms of fatigue and depression, increase cardiovascular endurance and maintain quality of life for adult patients undergoing treatment for [leukemia](#).

A total of 10 patients undergoing treatment participated in the EQUAL (Exercise and Quality of Life in Leukemia/ Lymphoma Patients) study. Each patient was provided with specially-treated exercise equipment to minimize the risk of infection. They participated in an individualized exercise session while in the hospital for the 3-5 weeks of the induction phase of leukemia treatment. The exercise prescription comprised of aerobic and resistance exercises, core exercises, and light stretches tailored to the patient's level of fitness and leukemia symptoms. Upon their discharge from the hospital, each patient received an aerobic- based exercise prescription to use during their 2-week home recovery period.

Before and after the exercise program, the researchers tested key physiological measurements including resting heart rate, blood pressure and hemoglobin, body weight and height, body composition, cardiorespiratory fitness and muscular endurance. Psychological measures were tested using standard scales for assessing fatigue, depression and quality of life in cancer patients. Blood samples were also taken at baseline, mid, and at the conclusion of the study, and analyzed for cytokines, biomarkers of inflammation. The results of the study were recently published in the journal *Integrative Cancer Therapies*.

"We found that the patients experienced significant reduction in total [fatigue](#) and depression scores, as well as improved cardiorespiratory endurance and maintenance of muscular endurance," said Claudio Battaglini, Ph.D., assistant professor of exercise and sport science and UNC Lineberger member.

"This is important because of the numerous side-effects related to cancer treatment, and particularly leukemia treatment, which requires confinement to a hospital room for 4-6 weeks to avoid the risk of infection. We have demonstrated that these patients not only can complete an exercise program in the hospital but that they may receive both physiological and psychological benefits that could assist in their recovery," he added.

EQUAL phase II is in development. The follow-up study will consist of a randomized clinical-controlled trial to assess the effects on an individualized exercise prescription in acute leukemia patients vs. a group of leukemia patients receiving the usual treatment. If the results prove to be beneficial to [patients](#), the goal of the research team will be to expand the trial by developing a multi-site research program involving other cancer centers throughout North Carolina and around the United States.

Source: University of North Carolina School of Medicine ([news](#) : [web](#))

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