**Exercising During Chemotherapy for Breast or Colon Cancer Has Long-Term Benefits**

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**Expert Perspective**  
“In the past, patients were often told to rest and reduce their physical activity during treatment, but we now know that exercise is both safe and highly beneficial. As this study shows, exercising during cancer treatment can also make a significant impact on survivors’ health and quality of life over the long term. As physicians, we need to do more to help motivate our patients to exercise both during and after treatment,” said ASCO Expert Timothy Gilligan, MD, MSc, FASCO, moderator of today’s presscast.

ALEXANDRIA, Va. – A follow-up study to a randomized clinical trial reveals that exercising during adjuvant (post-surgery) chemotherapy helps people engage in more physical activity years later. Four years later, people with breast or colon cancer who had participated in an 18-week exercise program while receiving chemotherapy engaged in physical activity 142 minutes per week or 20 minutes per day more, on average, than those who did not participate in the exercise program. Researchers will present their findings at the upcoming 2018 Cancer Survivorship Symposium in Orlando, Florida.

“It is well known that exercise during chemotherapy can lessen treatment-related side effects, such as fatigue, pain, and nausea,” said lead study author Anne M. May, PhD, an associate professor of epidemiology at the University Medical Center in Utrecht, Netherlands. “Our study is the first to show that people who are physically active during treatment maintain higher levels of physical activity in the long run, and this is really important for their health and well-being.”

**About the Study**  
The Dutch PACT study investigated whether exercise during chemotherapy can reduce treatment-related side effects. Following surgery for stage I-III breast or colon cancer, study participants were
randomly assigned to participate in an 18-week supervised exercise program or receive usual care while they were receiving chemotherapy (about 70% of patients also received radiation therapy).

The exercise intervention involved 60 minutes of combined moderate- to high-intensity aerobic and strength training twice a week under the supervision of a physical therapist, plus 30 minutes of home-based physical activity three days a week. Researchers previously reported that the exercise program was effective in the short-term – patients who exercised during treatment had less fatigue than those who did not.

Four years later, researchers surveyed 128 of the study participants (110 with breast cancer and 18 with colon cancer) to determine if the exercise intervention had long-term benefits. Fatigue and physical activity levels were assessed using validated measures, the Multidimensional Fatigue Inventory (MFI) and the Short Questionnaire to Assess Health - Enhancing Physical Activity (SQUASH). Of the patients surveyed, 70 had participated in the exercise program and 58 received usual care.

**Key Findings**

After four years, patients in the exercise group reported engaging in moderate-to-vigorous physical activity, such as cycling or jogging, 90 minutes a day, on average, whereas those in the usual care group reported 70 minutes of moderate-to-vigorous physical activity per day.

“The exercise program was designed to keep patients physically active long-term, so we’re really pleased to see that even four years later people who received the intervention were still more active,” said Dr. May. The exercise program incorporated cognitive behavioral elements aimed at increasing the patients’ confidence to be physically active. In addition, the physical therapist discussed maintenance of sport engagement after completion of the intervention with the patients.

There was also a trend of lower physical fatigue in the exercise group compared to the usual care group, but the difference was not statistically significant.

**Next Steps**

More research is needed to confirm that this exercise intervention would be effective in reducing short-term and long-term side effects in patients treated for other types of cancer, although, so far, there is no data to suggest it would not. An analysis of 34 clinical trials with more than 4,300 patients being presented at the Cancer Survivorship Symposium (abstract #104) found that exercise significantly reduced fatigue, regardless of type and stage of cancer, and patient characteristics such as gender, age, and body mass index.

Prior research suggests that women treated for breast cancer have an increased risk for
cardiovascular disease, particularly if they received anthracycline-based chemotherapy. In the next follow up from the PACT clinical trial, the researchers plan to explore whether exercise during chemotherapy is protective against cardiovascular disease. Data from the PACT trial will be combined with data from another Dutch study, PACES, in the PACT-PACES-HEART study.

The study was supported by grants from the Dutch Cancer Society, the Dutch Pink Ribbon Foundation and the Netherlands Organization for Health Research.

View the full abstract.

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- The Importance of Exercise
- Exercise During Cancer Treatment: An Expert Q&A

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Click here to view the disclosures for the News Planning Team.

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