

Exercise Improves Cancer Survivors' Cardiovascular Health

A four-month aerobic and resistance training intervention led to improvements in vascular function.

April 17, 2024 By [Liz Highleyman](#)

Breast, colorectal and prostate cancer survivors who participated in an aerobic exercise and resistance training program showed improvements in vascular function and reduced atherosclerosis, according to study results presented at the [American Association for Cancer Research Annual Meeting \(AACR 2024\)](#) this month in San Diego.

"After just four months, patients in the exercise program significantly improved vascular function measures, including improving endothelial function and reducing vascular wall thickness compared to the usual care control group," Cami Christopher, MPH, of Dana-Farber Cancer Research Center, [said in a video summary](#). "Our findings are in line with recent cardio-oncology guidelines, which advocate for exercise to be integrated into clinical care and mitigate cardiovascular disease risk among cancer populations."

Cancer survivors are at an increased risk for cardiovascular disease—including atherosclerosis, hypertension and heart failure—in part due to negative effects of certain cancer therapies. Studies have shown that physical activity can improve the health of people undergoing cancer treatment and cancer survivors, but its effects on vascular function have not been extensively studied.

Christopher and colleagues conducted a pilot study to evaluate whether an exercise intervention could improve vascular function for cancer survivor. They assessed brachial artery flow-mediated dilation, a measure of how much a major artery in the upper arm expands when blood flow increases during exercise. They also used ultrasound imaging to measure carotid intima media thickness, or thickening of the walls of the carotid arteries in the neck—an early indicator of atherosclerosis, or "hardening of the arteries."

The analysis included 38 breast cancer, 28 colorectal cancer and 24 prostate cancer survivors with a median age in the mid-sixties. At baseline, they were sedentary and had overweight or obesity. Three quarters had completed chemotherapy, radiation therapy or both.

The study participants were randomly assigned to either receive usual care or take part in an interval-based circuit exercise program that included both moderate to vigorous aerobic activity

and resistance training. Those in the latter groups did supervised training three times per week for four months.

After the intervention, people in the exercise group showed a significant increase in brachial artery flow-mediated dilation compared with the control group. They also had a significant reduction in carotid intima media thickness.

“Our findings in this pilot study support that a circuit, interval-based aerobic and resistance exercise intervention may improve vascular function in breast, prostate and colorectal cancer survivors,” the researchers concluded. “Future studies are recommended to understand how exercise interventions can be utilized clinically to improve cardiovascular disease risk and comorbidity among cancer survivors.”

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