

Exercise During Chemotherapy Is Safe, Feasible and Effective

People who began an exercise program after completing chemotherapy also saw similar but delayed benefits.

January 16, 2023 By [Sukanya Charuchandra](#)

Engaging in exercise while receiving chemotherapy greatly improved cardiorespiratory fitness and was safe and tolerable, according to findings published in [JACC: CardioOncology](#). What's more, people who started exercising after chemo benefitted as well.

Physical activity is [known to have benefits](#) for people living with cancer. But the ideal timing of exercise in relation to treatment and its impact on the side effects of cancer therapy needs further exploration.

Gabriela van der Schoot, MSc, of the University of Groningen in the Netherlands, and colleagues aimed to establish whether exercise during or after chemotherapy was more effective at improving long-term cardiorespiratory health.

This study ([NCT01642680](#)) included 266 people with various types of cancer who were treated with curative chemotherapy; 139 had breast cancer, 95 had testicular cancer, 30 had colon cancer and two had lymphoma. They were randomized to exercise for 24 weeks either during cancer treatment or after it was completed.

The first group participating in a supervised exercise program for 12 weeks while undergoing chemotherapy, followed by 12 weeks of unsupervised exercise at home once chemotherapy was completed. The second group started working out after they received their final dose of chemotherapy, first with a supervised exercise program for 12 weeks then on their own for 12 more weeks. The exercise intervention was moderate to intense, including stationary biking, badminton and resistance training. The researchers assessed peak oxygen uptake (VO₂peak), a measure of cardiorespiratory fitness, in both groups after completing the exercise program and again a year later.

In keeping with earlier studies, supervised exercise during chemotherapy was safe and well tolerated. Moreover, exercise helped alleviate the drop in cardiorespiratory fitness seen among patients undergoing chemotherapy. During chemotherapy, both groups experienced a decline in peak oxygen uptake and decreased muscle strength and reported increased fatigue and worse

health-related quality of life. But by the end of chemotherapy, these measures did not change as much in the group that exercised during treatment compared with the group that waited. One year after the exercise intervention, peak oxygen uptake, muscle strength and fatigue did not differ between the two groups. And in both groups, health-related quality of life had improved compared with baseline levels.

“Exercise can be safely performed during chemotherapy and prevents fatigue and decreases in VO2peak, muscle strength and [health-related quality of life], in addition to hastening the return of function after chemotherapy,” wrote the researchers. “Also, if exercise cannot be performed during chemotherapy, a program afterward can enable patients to regain the same level of function, measured one year after completion of the intervention.”

While exercise appeared to have a positive impact, adherence was suboptimal, especially during chemotherapy. The adherence rate among people who exercised during chemotherapy was 75%, rising to 83% for those who started the exercise program after chemotherapy.

In an [accompany editorial](#), Neil Iyengar, MD, of Memorial Sloan Kettering Cancer Center said the study findings help “inform the clinical application of exercise and underscore the need for further investigation of exercise dosing, timing and individual response to equip clinicians with the data and knowledge that are required to prioritize exercise in cancer treatment planning.”

Click here to [read the study](#).

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