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Effective Exercise Interventions for Patients and Survivors of Cancer Should be Supervised, Targeted, and Prescribed With Referrals From Oncologists and General Physicians

TO THE EDITOR: We agree with Hardcastle and Cohen¹ that physical activity is important for patients and survivors of cancer, and that the oncology specialist is ideally suited to promote this message. Indeed, a key strategy in cancer management is the increased awareness by medical and health professionals who support patients with cancer and survivors that physical activity and exercise is a critical component of patient care and a necessary intervention to improve health outcomes; however, the recommendations by Hardcastle and Cohen¹ for implementation are an oversimplification that may adversely impact the integration of exercise medicine into best practice management of cancer.

Preclinical studies,² observational studies,³ and randomized controlled trials⁴ demonstrate that the benefits of targeted exercise extend beyond the various components of physical fitness to the maintenance or enhancement of musculoskeletal health, a reduction in metabolic and cardiovascular risk, and to systemic and local alterations that may actually impact tumor biology.⁵ Furthermore, it has been demonstrated that specific exercise programs result in improved chemotherapy completion rates,⁶ whereas targeted exercise prescription before cancer surgery results in improved patient outcomes.⁷

Unfortunately, oncologists have no training in exercise medicine and cannot realistically prescribe physical activity or exercise, and, as Hardcastle and Cohen¹ point out, available time with the patient is a barrier. Moreover, although there are guidelines from several national organizations⁸ that recommend the completion of 75 to 150 minutes per week of moderate-to-vigorous aerobic exercise and two or more resistance training sessions per week, this is a generic recommendation that will be ineffective and unachievable for many patients with cancer, especially if they are to undertake this at home as suggested by Hardcastle and Cohen.¹ A preferable model is one in which the oncologist provides a strong message that exercise will benefit the patient's quality of life and reduce treatment toxicities, then refers the patient to an appropriate allied health professional, such as a clinical exercise physiologist or exercise medicine doctor. The patient could then receive a tailored exercise medicine prescription that is designed to ameliorate the critical morbidities that cause them the greatest discomfort and risk of death. For example, if the patient is experiencing cachexia as a result of the cancer and treatments, then a recommendation of 150 minutes per week of walking will actually exacerbate the muscle, fat, and bone loss by increasing the energy deficit. Carefully prescribed resistance exercise, combined with nutritional support, would be indicated in this case. We are doing a disservice to our patients—compromising their quality of life

and chances of survival—by not providing them with optimal exercise medicine as a part of cancer treatment.

We acknowledge the financial, accessibility, scalability, and patient preference considerations raised by Hardcastle and Cohen,¹ but we do not believe that patients or the oncology professions should settle for a low-fidelity, suboptimal, generic physical activity recommendation. Research from our team and others clearly demonstrates that home-based interventions⁹ are far less effective than those that are completed under supervision by appropriate specialists in an exercise clinic setting.¹⁰ Most patients with cancer will be older and have numerous comorbidities, which places them at risk when exercising unsupervised, particularly alone at home. Furthermore, it is difficult to implement a quality exercise program with limited equipment and, in particular, the required intensity to elicit specific physiologic adaptations to reduce treatment toxicities and potentially enhance systemic and local antitumor effects in a home-based intervention.

It is unsurprising that patients will prefer a walking program, but they would also prefer to take a placebo pill that has no adverse effects and can be consumed at home rather than having to complete a course of chemotherapy infusions; however, we all acknowledge that it is nonsensical to recommend a treatment that will have no therapeutic benefit just because it is more convenient and bearable. Therefore, it is nonsensical to recommend home-based walking exercise to a patient with cancer whose medical condition requires a specific exercise prescription.

We commend Hardcastle and Cohen¹ for their strong recommendation of physical activity promotion and agree that the implementation must include a brief and powerful recommendation from the treating oncologist. Whereas the generic physical activity guidelines may be applicable, albeit suboptimal, for relatively healthy survivors of cancer, we reject this as a recommendation for patients who are preparing for treatment, such as surgery, during treatment, such as hormone therapy or chemotherapy, or who suffer significant treatment toxicities and comorbidities. The principal aim of exercise in the oncology setting should be the incorporation of targeted exercise medicine into best practice patient care.

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AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

Disclosures provided by the authors are available with this article at jco.org.

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