

■ CNE Article

# Physical Activity in Patients With Advanced-Stage Cancer: A Systematic Review of the Literature

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The importance of physical activity for chronic disease prevention and management has become generally well accepted. The number of research interventions and publications examining the benefits of physical activity for patients with cancer has been rising steadily. However, much of that research has focused on the impact of physical activity either prior to or early in the cancer diagnosis, treatment, and survivorship process. Research focusing on the effects of physical activity, specifically for patients with advanced-stage cancer and poorer prognostic outcomes, has been addressed only recently. The purpose of this article is to examine the state of the science for physical activity in the advanced-stage disease subset of the cancer population. Exercise in a variety of intensities and forms, including yoga, walking, biking, and swimming, has many health benefits for people, including those diagnosed with cancer. Research has shown that, for people with cancer (including advanced-stage cancer), exercise can decrease anxiety, stress, and depression while improving levels of pain, fatigue, shortness of breath, constipation, and insomnia. People diagnosed with cancer should discuss with their oncologist safe, easy ways they can incorporate exercise into their daily lives.

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Substantial research exists on physical activity (PA) regarding generally healthy individuals, as well as those with chronic diseases. Some of the most common benefits of activity are understood to be improved mood, prevention or management of chronic diseases (e.g., hypertension, diabetes, hyperlipidemia), increased energy, and more restful sleep (Blair & Morris, 2009). PA is now considered a common disease prevention and management modality within current clinical practice guidelines (Haskell et al., 2007). Specifically, within oncology research, findings have shown an association among sedentary lifestyles and increased risk of developing a malignancy (Pan, Ugnat, Mao, & Canadian Cancer Registries Epidemiology Research Group, 2005; Patel, Rodriguez, Pavluck, Thun, & Calle, 2006). In addition, PA is increasingly being researched as a nonpharmacologic method to optimize patient outcomes by increasing the length of survival after cancer diagnosis and treatments (Courneya & Friedenreich, 2001) while also managing physical and psychological symptoms commonly reported in this patient population (Jones & Peppercorn, 2010;

Speck, Courneya, Masse, Duval, & Schmitz, 2010). Several key studies have found PA to be inversely related to risk of disease recurrence and overall mortality in patients with breast or colorectal cancers (Holmes, Chen, Feskanich, Kroenke, & Colditz, 2005; Jones & Peppercorn, 2010; Meyerhardt et al., 2009).

Symptom-related research in patients diagnosed with a malignancy has shown that PA is associated with decreases in physiologic symptoms such as pain, peripheral neuropathy, and fatigue, as well as psychological symptoms of anxiety and depression (Mustian et al., 2009; Nicholas et al., 2007; Oldervoll et al., 2006; Stevinson et al., 2007, 2009). As a result of these positive physical and psychological effects, PA has shown the potential to improve health-related quality of life (HRQOL) and the functional status of patients before, during, and after cancer treatment (Holmes et al., 2005; Jones & Peppercorn, 2010; Meyerhardt et al., 2009; Mustian et al., 2009; Nicholas et al., 2007; Oldervoll et al., 2006; Speck et al., 2010).

The positive findings related to the use of PA in patients with cancer have spurred an increased interest in the benefits of