

# Facilitating Exercise Adherence for Patients With Multiple Myeloma

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Physical exercise is accepted widely as being beneficial for healthy individuals (*Healthy People 2010: Understanding and Improving Health*, 2000) and is becoming a part of therapy for many patients with cancer (Mock, 2001). However, prescribing individually tailored exercises and tracking patients' abilities and commitments to adhere to a program of exercise throughout the course of treatment require greater time and effort than typically are available to busy practitioners. In an effort to better understand the barriers to exercise for patients receiving treatment for multiple myeloma (MM), the authors conducted a feasibility/pilot study to test the suitability of home-based exercise therapy for patients undergoing high-dose chemotherapy and autologous peripheral stem cell transplantation. This project allowed the researchers to identify trends toward improvement or lack of improvement in several physical performance tests. The information obtained helped them provide individualized exercise programs that matched patients' physical and psychological abilities. Measurements of lean body weight, aerobic capacity, and strength (upper and lower extremities) helped in individualizing exercise prescriptions and served as an indicator that patients were benefiting from exercising.

Physical exercise is becoming an accepted part of therapy for many patients with cancer. Exercise may alleviate patients' fatigue and improve physical performance and psychological outlook. Much of the research is limited to women with breast cancer and excludes patients with bone metastases. This article reports on the authors' work in facilitating exercise adherence for patients with multiple myeloma (MM) and bone lesions while they were enrolled in a feasibility/pilot exercise study as they were receiving treatment for their disease in an outpatient treatment program. The exercise program for these patients receiving high-dose chemotherapy and stem cell transplantation consisted of aerobic and strength-building components. The program was home based, and patients performed exercises without direct supervision. On average, the patients completed the six-month exercise prescription 75% of the time. Overall trends showed that all 14 patients in the exercise group improved in several areas of testing, and the test results of all 10 patients in the usual-care group declined. Flexibility and simplicity are essential when designing exercise programs for patients, and encouragement and support also are needed to help patients adhere to prescribed exercise.

**Key Words:** exercise, multiple myeloma

The hypothesis was that, in relation to the control group, patients participating in an individualized, home-based exercise program would lose less lean body weight, have less fatigue and mood disturbance, and sleep better.

## Benefits of Exercise for Patients With Cancer

Benefits of exercise for patients with cardiovascular disease, diabetes, pulmonary disease, and arthritis are well documented (Braden, 1990; Glasgow et al., 1992; McGavin, Gupta, & McHardy, 1976; Pollock et al., 2000; Stewart, 2002). Patients with cancer frequently experience lack of energy and loss of physical performance and strength. Evidence to support programmed exercise during cancer treatment is growing. Researchers have found that exercise can alleviate patients' fatigue and improve physical performance and psychological outlook (Dimeo, 2001; Dimeo, Fetscher, Lange, Mertelmann, & Keul, 1997; MacVicar, Winningham, & Nickel, 1989; Mock

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