

## Fitness Program Benefits Mind and Body in Cancer Survivors

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April 29, 2011 (Washington, DC) — A community-based, small-group strength and fitness program significantly improves physical and psychological functioning in cancer survivors, in both the short- and the long-term, new research suggests.

In a study presented here at the Society of Behavioral Medicine 32nd Annual Meeting and Scientific Sessions, Matthew Buman, PhD, Stanford University, California, and colleagues found that all psychological measures, including rated fitness, vitality, perceived stress, and fatigue, improved 12 to 16 weeks after the intervention.

Among participants who persevered out to 12 months, improvements in the same measures were also sustained. Similarly, all measures of objective strength, including chest and leg presses, seated row, and total weights, significantly improved mid-intervention at 8 weeks as well as post-intervention at 16 weeks.

Exploratory subanalyses indicated that strength improved in both men and women and in survivors of breast and of nonbreast cancer.

"One of the major complaints we hear from people who have gone through cancer treatment is they do not have the energy to do anything," Dr. Buman told *Medscape Medical News*.

"So we chose measures like vitality and rated fitness because we felt these measures would be sensitive to this type of intervention. And our results demonstrate that evidence-based cancer survivor physical activity programs can successfully be translated into the community setting."

### Living Strong Living Well

The "Living Strong Living Well" program has been offered through local YMCAs in the Bay area since 2002. Between 2002 and 2008, a total of 851 cancer survivors participated in the program — almost 80% of them women. Slightly over half of the women had breast cancer. The program takes cancer survivors through a strengthening and physical conditioning type of intervention, Dr. Buman explained. The goal is to increase participants' strength and endurance and, ultimately, quality of life.

Changes in physical and psychological measures, including fitness, vitality, perceived stress, and fatigue, were measured at the end of the program 12 to 16 weeks after the intervention; longer-term change at 6 and 12 months' follow-up was measured in a subgroup of participants. All changes at all time points were significant relative to baseline ( $P < .001$ ).

### Changes in Physical and Psychological Measures

Measure	Baseline (Mean)	Post-Intervention (Mean)	6-Month Follow-up	12-Month Follow-up
Rated fitness	3.03	3.84	3.93	3.82
Vitality-Plus	33.08	36.69	36.97	36.30
Perceived stress	24.01	19.91	19.66	21.02
Fatigue	4.22	3.02	3.01	3.26

### FitLinxx

Using the FitLinxx computerized data collection, available to participating YMCAs, investigators also measured objective strength outcomes. Changes relative to baseline were measured at 8 weeks mid-intervention and again at 16 weeks post-intervention. All changes at all times points were significant relative to baseline ( $P < .001$ ).

### Changes in Objective Strength Measures

Measure	Baseline (lb)	Mid-Intervention (lb)	Post-Intervention (lb)
Chest presses (n = 156)	307.68	480.71	523.82
Leg presses (n = 159)	981.73	1773.26	2096.65
Seated row (n = 172)	467.28	796.34	923.84
Total weight lifted (n=234)	3160.91	6778.42	8575.95

### Need for More Programs

Kerry S. Courneya, PhD, University of Alberta, Edmonton, Alberta, Canada, told *Medscape Medical News* that there are over 12 million cancer survivors in the United States and that this number continues to grow.

"Cancer and its treatments can have significant effects on the physical and emotional well-being of survivors that undermine QoL [quality of life]," he observed. Although Buman and colleagues did observe reliable improvements in important QoL outcomes, "they do not report the magnitude of the effect," he said.

Nevertheless, he said, he has done many research studies on exercise in cancer survivors and found such programs to be very beneficial.

"We have examined standard aerobic exercise interventions, weight-training interventions, and higher-intensity interval training interventions and found all of them to be beneficial. We have found particularly good benefits for weight training and interval training."

The availability of exercise programs designed specifically for cancer survivors is still limited, and those that do exist are often housed within cancer treatment centers. Still, there are many options for getting these types of programs to cancer survivors, as Dr. Courneya suggested. For example, programs for cancer survivors can be offered through community fitness centers, such as YMCAs, as was done in Buman and colleagues' study.

Exercise programs can also be offered by cancer treatment centers. Programs in cancer centers can be a very effective approach and can be promoted and disseminated by cancer organizations, such as the American Cancer Society and the National Cancer Institute, as well as cancer advocacy groups.

*Dr. Buman has disclosed no relevant financial relationships. Dr. Courneya is an expert panel member for the Lance Armstrong/YMCA Cancer Survivorship Collaborative, LIVESTRONG at the YMCA.*

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