



## CONTENTS

# Forward Motion

BY LENA HUANG

*Exercise programs prove beneficial for cancer patients.*

Ben Lauderdale has lost a lot to cancer. Ten years ago, he lost his wife to lymphoma, and in 2001, he lost a kidney to metastatic bladder cancer. But at age 80, plagued by gout and neuropathy, Lauderdale says he found some hope in the strangest of places—in a small, simple room filled with equipment at the First Christian Church in Tyler, Texas. But it wasn't religion he found—it was exercise.

“It gives me incentive. It helps my circulation and my balance. And I can't tell you how, but it aids my day. If I miss one day, I don't feel as well,” Lauderdale says.

As the physical and mental benefits of exercise are being realized by survivors like Lauderdale and are being confirmed through scientific studies and research, exercise programs across the country are emerging to meet the unique needs of people with cancer.

The Tyler program, developed by the nonprofit Cancer Foundation For Life, or CFFL, is a free exercise program to rehabilitate cancer patients in and out of treatment. While patients often come to CFFL to alleviate side effects or to rehabilitate from chemotherapy or radiation, they often leave with much more—a positive mental outlook and a sense of empowerment, says founder Gary Kimmel, MD.

“You can't take someone who is debilitated, bald, with neuropathy, and put them in a fitness center with a bunch of young, fit people,” says Dr. Kimmel, a retired oncologist who established CFFL in 2001. “Cancer patients have to have the right environment. They have to have ownership because that way, they can share their experiences together. They are able to empower each other, to achieve levels of activity perhaps never conceived of because they are next to someone who has been through chemotherapy and radiation, who regained their strength, vitality, and quality of life. This program model is extremely effective.”



The cancer exercise program designed by Dr. Gary Kimmel has locations in Dallas and Tyler. Photo by Wes Wolfe.

## Models of Movement

In Seattle at the Swedish Cancer Institute, ACTIVE (Addressing Cancer Through

Individualized Exercise) medical director David Zucker, MD, PhD, sees how personal empowerment through exercise can help patients rehabilitate from cancer.

“When someone gets cancer, it is often the first time that person realizes, ‘Mortality applies to me.’ ... Some people describe it as being in a free fall,” says Dr. Zucker. “Often, the only thing that person has to hang on to is the cancer diagnosis. And while it is important for patients to pay attention to treatment, it is equally important for them to pay attention to the billions and billions of healthy cells in their body. Exercise gives those healthy cells attention.”

As a rehabilitation physician and clinical psychologist for patients with cancer, Dr. Zucker says most of his patients experience fatigue, alone or with other side effects, such as pain, nausea, anxiety, and depression. And while treatments exist for each side effect, exercise is one treatment that spans over several side effects.

“We have seen a physical confidence in our patients, an understanding of the side effects of treatment and how to use exercise to cope with them well,” Dr. Zucker says, adding participants also report improved tolerance to treatment, reduced fatigue, improved mood, better sleep, less pain, and improved tolerance or ability to participate in everyday activities since attending the program.

Since its inception in 2005, the ACTIVE program has seen over 400 patients, says Dr. Zucker. The program starts with a physician referral and initial consultation with Dr. Zucker, who reviews the patient’s medical, functional, psychological, and social history. The patient then visits with a physical therapist for a musculoskeletal evaluation and aerobic-capacity assessment. The findings are reviewed and an individualized program is created.

Program length varies from patient to patient and is covered by some insurance, although Swedish Cancer Institute offers charity support to patients in need through its nonprofit foundation. Dr. Zucker’s goal is to support patients with “whatever activity goals they have.” For some patients, the benefits of exercise are realized within a few visits. For others with chronic cancer or who are debilitated, the process may take longer.

“Rather than view exercise as an act of performance, I ask patients to view exercise as an act of self-care and kindness,” says Dr. Zucker.



Cancer survivors can participate in the Cancer Foundation for Life for free. Photo by Wes Wolfe.

## What Studies Show

Researchers are confirming what exercise program leaders are discovering—not only does exercise build up self-esteem in cancer patients but it may also improve survival.

Two recent studies with colorectal cancer patients resulted in similar findings: Patients who added exercise to their lifestyle after diagnosis cut their chances for recurrence and death in half.

More than 800 stage 3 colorectal cancer patients were examined in one study that concluded patients who engaged in at least six hours of walking at an average pace per week (or an equivalent exercise) had a 47 percent improvement in disease-free survival. The other study, based on results of the Nurses' Health Study, revealed a 50 percent reduction in both colorectal cancer-specific and all-cause mortality in physically active individuals.

"Most importantly, we had consistent outcomes in both studies that exercise does have an effect," says Jeffrey Meyerhardt, MD, lead investigator on the two studies and assistant professor of medicine at Dana-Farber Cancer Institute. "But it is difficult for patients to sustain. It's easier for a physician to prescribe a pill and harder to prescribe an exercise program that will be followed through." Both studies were published in the *Journal of Clinical Oncology* in 2006.

Another study, which followed breast cancer patients on adjuvant chemotherapy, reported improvements in self-esteem, muscular strength, lean body mass, and chemotherapy completion in participants who completed a resistance exercise program three times per week, performing two sets of eight to 12 repetitions. The same study, published last year in the *Journal of Clinical Oncology*, found improved self-esteem, aerobic fitness, and body-fat levels in participants who exercised aerobically three times a week for an average of 30 minutes per session.

Despite these encouraging results, Dr. Meyerhardt says more research on the impact of exercise on cancer needs to be done. "Why do people exercise, and do they do enough? When do they increase or decrease exercise? How long do you have to stay active to maintain the effect? These are questions that I hope one day we can answer in a large-scale study that shows how you can change behavior consistently." (Read about sustaining lifestyle changes in ["Good Behavior"](#).)

At CFFL, Dr. Kimmel and his staff are collaborating with the University of Texas at Tyler's College of Nursing and Health Sciences to measure outcomes of the program based on a quality of life scale that includes physical functioning, vitality, social functioning, and general health. Initial results show the CFFL program makes a positive difference in the patient's life by the third month of participation and the difference is sustainable, says Dr. Kimmel.

## Moving Forward

Fourteen years ago, Julie Main's doctors didn't have the research to understand why she handled treatment for breast cancer better than other patients. But as manager of the Santa Barbara Athletic Club, Main knew the key was exercise.

Main developed the Cancer Well-fit Program in 1994 for newly diagnosed patients. The program is focused on progressive resistance strength training with group exercise and individualized training. The program is free to participants but requires a doctor's referral.

Paula Lilly, who co-directs the program with Main, says more than 1,500 patients have attended the program, which is funded through the Cancer Center of Santa Barbara and the Santa Barbara Athletic Club. Although the program is individualized, patients work out during the same time each week, creating a support network where they can share their cancer experiences.

Back at CFFL in Texas, Dr. Kimmel agrees that sharing experiences is an important motivator for cancer patients, which is one reason CFFL has eight centers in Tyler and five in Dallas. He says it is vital for patients to come to the centers because they get something there that they can't get at home—camaraderie. “You have to build relationships because other cancer survivors are probably the strongest motivator to keeping patients exercising.”

CFFL exercise centers are designed to encourage discussion. Unlike typical workout gyms, there are no televisions, so patients share experiences and converse with each other instead of staring at screens, says Dr. Kimmel. The centers are even staffed with clinicians to take blood pressure, blood oxygen saturation, and pulse rates during exercise and to provide feedback to participants.

Another unique facet of the program is the equipment. With a kinesiologist and exercise equipment consultant, Dr. Kimmel designed treadmills, elliptical machines, and squat machines specifically for an older and sometimes debilitated population of cancer patients. For example, CFFL equipment has extended side rails, which allows patients in wheelchairs or with walkers to hold on for stability. Dr. Kimmel also designed a simple control screen for the treadmills—just a few large buttons to adjust elevation and speed, instead of the dozens of buttons and programs found on conventional treadmills.

Dr. Kimmel says although these alterations may seem small to healthy individuals, they are huge for people living with cancer. “What we are trying to do is to change a mindset. You are not a victim to cancer. You've got a life to live, and we will be here to help you.”