Exercise Programming for Breast Cancer Patients

There are ways to work with clients who are undergoing treatment.

I vividly remember the day, 4½ years ago, when my best friend learned she had breast cancer. It seemed completely unbelievable—she was only 36 and still nursing her 7-month-old baby! The subsequent weeks and months were a labyrinth of doctors' visits, tests, treatment decisions, surgery, chemotherapy, radiation and ongoing drug therapies to prevent recurrence. I had heard much about breast cancer, but watching someone close to me undergo aggressive cancer treatment made me wonder if anything could be done to mitigate the challenging side effects.

Research and Treatment

In recent years, large charity events to raise funds for breast cancer research have exponentially raised the profile of what used to be a disease rarely spoken about publicly. A diagnosis of breast cancer 40 years ago was often a death sentence. This was especially true for younger women, who in general have a poorer prognosis than women who have already gone through menopause (de la Rochefordière et al. 1993).

Today, a better understanding of the disease has led to treatment advances that have improved survival rates. In fact, death rates from breast cancer have been declining since 1990, due to treatment advances, earlier detection through screening and increased awareness. The introduction of drugs such as tamoxifen (Nolvadex®, endocrine therapy that blocks estrogen) and trastuzumab (Herceptin®, which blocks the HER2 growth protein expressed by some breast cancer tumors) has also reduced the recurrence rate of the disease (Women's College Hospital 2011). Even so, about 39,840 women in the United States were expected to die from breast cancer in 2010. This mortality rate is second only to that of lung cancer (Breastcancer.org 2011).

It is well established that regular exercise can help prevent breast cancer (Peel et al. 2009). Recently, researchers have determined that high levels of insulin and insulin-like growth factor (IGF-1), often present in sedentary individuals, can increase the risk of breast cancer recurrence (Ligibel et al. 2008; Irwin et al. 2009). Along the same lines, a 2005 study of 3,000 breast cancer patients found that just 1 hour of walking per week significantly increased a patient's likelihood of making a full recovery (American Cancer Society 2005). A systematic meta-analysis published in the *Canadian Medical Association Journal* analyzed the data from 14 studies and found that the benefits of exercise were positive even when

statistical significance was not achieved (McNeely et al. 2006). The outcomes measured were quality of life, cardiovascular fitness, physical functioning, fatigue, body composition and adverse treatment effects.

Practical Implications of the Research

Based on the body of literature now available, women whose lives have been touched by breast cancer should be strongly encouraged to exercise. This includes women who have been recently diagnosed, women who are going to have surgery or are postsurgical and women who are undergoing chemotherapy and radiation—as well as women who have completed treatment (see the sidebar "Effects of Exercise on Cancer Treatment"). It's also noteworthy that younger women who are undergoing pharmacologically induced menopause (which stops hormone-receptor positive tumors from being "fed" by estrogen and progesterone) can use exercise to reduce the weight gain and bone density loss associated with this treatment.

Cardiovascular and strength training appear to be equally beneficial in generating antidepressive effects (Brosse et al. 2002), so it makes sense that regular cardiovascular and resistance exercise could also be used to manage depression and/or anxiety triggered by the trauma of a breast cancer diagnosis. The greatest results appear to occur after 17 weeks of exercise, although small changes can be observed after 4 weeks (Scully et al. 1998). Physicians in Great Britain now use exercise as a first-line treatment for depression, while such treatment is vastly underutilized in the United States (Ratey 2008).

The benefits of using exercise to help treat anxiety are just as convincing (Kravitz 2007). When "selling" breast cancer patients on the advantages of regular exercise, fitness professionals should concentrate on benefits that are easy to achieve in the short term and straightforward to measure (e.g., improved mood, management of treatment side effects). Although the long-term wish of all cancer patients is to prevent recurrence, it would be foolhardy to make such promises to clients. There are a multitude of reasons, both known and unknown, why some people recover from cancer and some do not. Perhaps the most prudent way for trainers to address clients' fear of not recovering from the disease is to present research on the role that exercise plays in treatment, while focusing on variables that can be seen, felt and measured.

Programming Considerations

If you are serving a client who is dealing with a cancer diagnosis, you will want to consider the following critical points when creating an exercise program:

Care About the Client

Physicians, nurses, social workers and other helping professionals are profoundly aware that in order to do their jobs successfully, they must make their patients and clients feel cared for. By itself, an extensive knowledge base will not do the trick. As a personal trainer, you will be more effective if you develop basic counseling skills, within scope of practice. Active listening, attentive body language, genuine compassion and empathy will go a long way to enhancing client compliance and satisfaction (see the sidebar "Effective Communication Skills").

Do not make promises to your client, do not tell her she will beat the disease, and do not tell her everything happens for a reason. Even oncologists cannot predict with certainty which patients will fully recover. Instead, provide emotional support by listening to your client's concerns and giving your undivided attention to her expressions of sadness and fear. Stay within your scope of practice by avoiding discussions about issues that are best left to a trained psychotherapist, such as marital difficulties, childhood trauma or debilitating anxiety. Learn about resources available to breast cancer patients in your area, including counseling and peer support, and do not hesitate to make a referral.

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Obtain Physician Clearance

Before embarking on an exercise program, your client must obtain clearance from her oncologist. The clearance must be in writing, in accordance with the American College of Sports Medicine (ACSM) guidelines for clients with medical problems. When preparing an exercise program for the client, include details about what the program will involve, and consider providing a bibliography of academic journal articles on the benefits of exercise for cancer patients. Familiarize yourself with the information in the bibliography so that you can readily answer questions from the prospective client.

Assess Cardiovascular Fitness

Chemotherapy medications usually cause a decline in maximal oxygen consumption (VO_2max), so make it clear to your client that one of the goals of cardiovascular exercise is to minimize this loss. Use a low-risk, submaximal assessment protocol that will generate necessary infor-

Effects of Exercise on Cancer Treatment

Most people know that exercise can help *prevent* breast cancer as well as increase the likelihood of a full recovery *after* treatment. However, it is not as widely recognized that regular exercise can also mitigate many of the symptoms of cancer *treatment* (including the symptoms of pharmacologically induced early menopause). Here are a few of the most notable benefits:

- increased functional capacity
- increased postmastectomy mobility and ROM
- decreased body fat
- increased lean muscle mass
- reduced loss of bone mineral density
- decreased nausea and fatigue
- improved mood, self-esteem and sense of control

In short, exercise can be beneficial before, during and after a diagnosis of breast cancer.

mation about the client's current fitness level without putting her at risk of musculoskeletal injury.

Simple cardiovascular tests such as the Rockport Walk Test (see the "Resources" sidebar) and the Ross Submaximal Treadmill Protocol (Bryant & Green 2003) are easy to administer and can be stopped immediately if the client feels unwell. It is wise to pair electronic heart rate monitoring with rating of perceived exertion (RPE); a woman who has already started treatment may not be able to generate a very high heart rate, so heart rate monitoring by itself could be misleading.

Do not compare the results of the test to age-specific norms—this is not motivating. Instead, explain that you are establishing a baseline with which to compare future progress. Heart rate recovery should also be monitored; depending on client age and current treatment regimen, your client's heart rate should return to its pre-exercise level within 5 minutes.

Test for Strength and Range of Motion

For this client, 1- or even 10-RM protocols are usually inappropriate. For strength, it is probably better to use an informal, ongoing assessment model by commencing with a 15- to 20-RM protocol and keeping meticulous records of reps, sets and loads. Every few weeks, motivate the client by drawing attention to achievements and gains. Of course, a woman who was highly trained before diagnosis can continue with her previous program if she is able. Assess range of motion (ROM) as you would for a healthy client—with the exception of the muscles that act at the shoulder girdle, as they may have been involved in breast cancer surgery.

Modify the HIIT

Implement cardiovascular training with modified high-intensity interval training (HIIT) to offset the decrease in VO_2max that occurs with cancer treatment. HIIT segments can be between 65% and 90% of VO_2max for 30 seconds to 3 minutes, depending on the client's pre-existing cardiovascular fitness level. It is imperative to use a heart rate monitor in order to safely observe and adjust the workload.

Include Strength Training

Strength training offsets the loss of lean tissue associated with chemotherapy regimens. In general, most women, unless they strength train, will have below-average upper-body strength even before they commence treatment. In addition, mastectomy and lymphadenectomy (removal of lymph nodes) surgeries involve cutting through muscle. On days when your client feels unwell, manipulate variables that will not interfere with strength development—for example, rest periods between sets, exercise position (i.e., sitting instead of standing) and, if necessary, reps. Do not reduce exercise load unless absolutely necessary.

Plan Your Sessions, But Be Prepared to Rework the Plan

Women undergoing treatment will have good days and bad days, and exercise intensity and duration need to be adjusted accordingly. With this in mind, have your client do more cardiovascular and strength work on good days. On bad days, spend time focusing on flexibility training and ROM improvements in the shoulder, neck and scapular musculature—areas of the body most impacted by breast cancer surgery.

Allow Time for Rest

Communicate the importance of rest as part of the fitness program. Explain that exercise adaptations occur during the *recovery* period following workouts, not during the actual *exercise sessions.*

Educate the Client About Lymphedema

Lymphedema is a chronic and progressive swelling of the arm, shoulder, neck or torso, arising from physical disruption or compression of the axillary lymphatic channels as a result of surgery or radiation therapy (Ahmed et al. 2006). Women who have had their lymph nodes surgically removed are at increased risk of developing this condition. Until recently, the common sentiment—still believed by some medical professionals—was that upper-extremity exercise contributed to the development of lymphedema. However, recent research examining two groups—women who participated in the Weight Training for Breast Cancer Survivors Study and women dragon boat racers who survived breast cancer—has found no association between upper-body exercise and lymphedema (Harris & Niesen-Vertommen 2000). For this reason, it would be wise for you to have copies of recent studies available for your client to show her doctor.

Effective Communication Skills

Active listening, attentive body language and genuine compassion and empathy will go a long way to enhancing client compliance and satisfaction. While your usual communication skills are excellent tools, these tips on active listening and body language can help make your compassion and caring evident.

- Find a quiet place (if you work in a facility) to conduct both the initial consultation and the first 5 minutes of each session. This will help both you and your client avoid distractions.
- Face your client, leaning forward slightly when she is talking.
- Make eye contact. And if you are taking notes, put your pen down during this time.
- Nod in agreement if she makes comments such as "This is so frustrating" or "I'd always been so healthy until this."
- Offer responses that paraphrase what the client is saying: "It's really terrifying to have this happen," "You have a lot of fears about this" or "This is an extremely stressful time." Make sure you are paraphrasing, as opposed to superimposing your own notions about what the client is thinking and feeling.
- Avoid comments that suggest a certain outcome: "I know you will be okay" and "You will beat this" sound like hollow promises. Instead, tell the client that you believe she has the strength to face the challenges that lie ahead.
- Ask the client about her network, to ensure that she has adequate emotional, social and logistical support while in treatment.

Use the basic tenet of cognitive behavioral therapy (Rachman 1997)—that changing behavior can change thought processes. Explain to the client that it is possible to manage stress and anxiety by making proactive behavioral choices that include regular exercise and a healthy diet.

Work to Change Breast Cancer Patients' Self-Conceptualization

In his memoir *It's Not About the Bike: My Journey Back to Life,* Lance Armstrong writes about how, when he was undergoing radical chemotherapy for advanced testicular cancer, he was shocked to find himself passed by a middle-aged woman on a mountain bike while out for a short ride with friends (Armstrong 2000). He later went on to win the Tour de France seven times.

The side effects of cancer treatment should not be underestimated; however, remaining active during treatment provides irrefutable physical and psychological benefits. Although winning a bike race is probably not in the cards for most of us, regular exercise provides women who have breast cancer with the opportunity to shift their self-conceptualization from "patient" to "athlete." As personal trainers, we can precisely tailor the programs we design to meet the needs of this population by providing expert guidance and support based on a vast body of supporting research. ■

Jennifer Salter, MSW, ACE-AHFS, ACE-PT, AAHFRP, is the director of Lifeline Personal Training in Toronto. She specializes in exercise for clients who have complex medical issues. Visit her at www.lifelinepersonaltraining.com.

resources

- American Council on Exercise—Advanced Health & Fitness Specialist Certification, www.acefitness.org/getcertified/certification_ahfs.aspx
- American Academy of Health, Fitness and Rehabilitation Professionals—Medical Exercise Specialist, http://postrehab.com/

(While these certifications do not specifically cover breast cancer, they do provide advanced training for working with postrehab clients that can be applied to working with any medical population.)

- www.breastcancer.org/
- PubMed Health: Breast Cancer, www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001911/
- *Dr. Susan Love's Breast Book* (Da Capo 2000)
- *Thriving After Breast Cancer: Essential Healing Exercises for Body and Mind,* by Sherry Lebed Davis (New World 2010)
- *Essential Exercises for Breast Cancer Survivors: How to Live Stronger and Feel Better,* by Amy Halverstadt (Harvard Common Press 2000)
- Rockport Walk Test, www.exrx.net/Calculators/Rockport.html

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