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Enhancing Exercise Adherence for the Breast Cancer Survivors

Dori Pekmezi, Ph.D.,

University of Alabama at Birmingham 1665 University Blvd., 227 RPHB Birmingham, AL 35293
205-975-8061

Michelle Y. Martin, Ph.D.,

University of Alabama at Birmingham 1717 11th Ave South, MT 617 Birmingham Alabama 35294
205-934-6866 (phone) 205-934-7959 (fax) mmartin@mail.dopm.uab.edu

Elizabeth Kvale, M.D.,

University of Alabama at Birmingham Birmingham VA Medical Center 1530 3rd Ave South
Birmingham, AL 35293 205-934-7905 (phone) 205-975-8173 (fax) EKvale@aging.uab.edu

Karen Meneses, Ph.D., and

University of Alabama at Birmingham 1530 Third Avenue South, School of Nursing, 2M029
Birmingham, AL. 35294 205-996-7038 (phone) 205-996-6046 (fax) menesesk@uab.edu

Wendy Demark-Wahnefried, Ph.D.

University of Alabama at Birmingham 1675 University Boulevard, Webb Nutrition Sciences Bldg,
Room 346 Birmingham, AL 35294-3360 205-975-4022 (phone) 205-975-2592 (fax)
demark@uab.edu

Keywords

Exercise; Breast Neoplasms; Health Promotion; Women's Health; Barriers

Learning Objectives

Readers can expect to learn more about the physical and mental health benefits, recommendations, prevalence rates and trends for physical activity among breast cancer survivors. Commonly reported barriers to physical activity for breast cancer survivors will also be reviewed, along with strategies for overcoming these challenges.

Condensed Version & Bottom Line

Physical activity is safe for breast cancer survivors and provides numerous physical and mental health benefits. Accordingly, the American College of Sports Medicine recommends that cancer survivors participate in at least 150 minutes of moderate intensity aerobic physical activity and two strength training sessions each week, with an emphasis on being as physically active as the survivors' abilities and conditions allow. Health care professionals

(corresponding author) (phone) 205-934-9325 (fax) dpekmezi@uab.edu.

Recommended readings WCRF/AICR Food, Nutrition and the Prevention of Cancer: a Global Perspective Expert Report 2007.

Byers T, Nestle M, McTiernan A, Doyle C, Currie-Williams A, Gansler T, Thun M. American Cancer Society guidelines on nutrition and physical activity for cancer prevention: Reducing the risk of cancer with healthy food choices and physical activity. *CA Cancer J Clin* 2002 Mar-Apr;52(2):92-119.

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can be aware of the many challenges breast cancer survivors face in meeting these recommendations, and be prepared to help problem solve the barriers to physical activity.

Summary Statement

In this article, we review physical activity benefits and recommendations for breast cancer survivors and suggest strategies to overcome frequently cited barriers to participation in physical activity.

Benefits of Physical Activity for Breast Cancer Survivors

Findings from recent reviews of the effects of physical activity on breast cancer survivors suggest that physical activity is safe and has numerous health benefits for this patient population (12). For example, physical activity has been shown to improve physical function, aerobic fitness, muscular strength, flexibility, body weight status and composition, bone health, quality of life, vigor/vitality, and sleep, and reduce fatigue, depression, and anxiety. Furthermore, physical activity after breast cancer diagnosis is associated with a decreased risk of death from the disease and thus may play a vital role in survival (4).

Physical Activity Recommendations for Breast Cancer Survivors

The benefits of physical activity for breast cancer survivors are well-established and formal recommendations are in place. The American Cancer Society and World Cancer Research Fund/American Institute for Cancer Research issued guidelines in 2002 and 2007, respectively (see recommended readings). Most recently, in 2011, the American College of Sports Medicine convened a panel of experts to review the relevant research and develop physical activity recommendations specifically for cancer survivors (12). In general, cancer survivors are encouraged to be as physically active as their abilities and conditions allow and avoid inactivity. While any physical activity is better than none, recommendations emphasize the importance of at least 150 min/week of moderate-intensity aerobic physical activity (or 75 min/week of vigorous-intensity) or an equivalent combination, as well as two to three strength training sessions per week. For flexibility, cancer survivors are encouraged to stretch major muscle groups and tendons on days that physical activity is performed. Of course, physical activity programs may need to be adapted for the individual survivor on the basis of their health status, treatments received, and anticipated disease trajectory. Survivors who have no evidence of disease and essentially normal life expectancy will have different goals and capacity than survivors who are living with chronic disease, or survivors with advanced disease. Evidence supports that even survivors with advanced disease benefit from physical activity (1).

Prevalence Rates and Trends in Physical Activity Among Breast Cancer Survivors

Despite these recommendations and many benefits to be gained from an active lifestyle, research has shown that participation in physical activity decreases during treatment for breast cancer and may remain at lower levels once treatment is complete and throughout the remainder of survivorship. For example, in a study conducted by Dr. Melinda L. Irwin and colleagues, breast cancer survivors reported decreasing their total physical activity by an estimated two hours per week (or 11%) from prediagnosis to postdiagnosis (5). Furthermore, the types of cancer treatments the breast cancer survivors undergo may have an impact on activity levels. Greater decreases in physical activity were found among women who were treated with both radiation and chemotherapy (50% decrease) compared with women who underwent surgery only (24% decrease) or who were treated with surgery plus radiation

(23% decrease). This is likely due to some of the unpleasant side effects from chemotherapy (i.e., fatigue, neutropenia, pain, hot flashes, nausea, vomiting) that can interfere with physical activity participation.

Barriers to Physical Activity for Breast Cancer Survivors

Breast cancer survivors report numerous barriers to participating in regular physical activity. While some of these barriers are disease-specific (e.g., nausea, fatigue, pain), breast cancer survivors also report experiencing the same physical activity barriers commonly reported by women in general. For example, lack of time, enjoyment, and social support from family and friends are consistently endorsed as barriers to physical activity for women, regardless of breast cancer status (2). Women often struggle to fulfill multiple roles at work and home and juggling these competing priorities, along with household and caretaking responsibilities, can leave little time for personal care. Additional time constraints imposed by medical visits and treatment further constrict available time to exercise among breast cancer survivors.

Given the limited leisure time typically available, women may elect to spend their precious down time in more appealing sedentary pursuits, like watching TV and browsing the Internet. Women frequently report finding group physical activity more enjoyable, but may have difficulty finding family members or friends who are willing to join them. Some family and friends (and even health care providers) may actively discourage breast cancer survivors from exercising, due to misconceptions surrounding the “need to rest” and inactivity being more conducive to recovery than exercise.

A lack of knowledge and confidence regarding the safety of physical activity during and/or after treatment can also hinder the adoption of physical activity and/or the return to normal, pre-diagnosis activity levels. In past studies, women have expressed uncertainty regarding exactly what types of physical activities and intensities are indicated for breast cancer survivors, along with concerns about ‘overdoing it’ (13). For example, breast cancer survivors with lymphedema (swelling and/or discomfort in the arms) are often counseled to limit the use of their affected arm (i.e., avoid lifting children, heavy bags, etc.). Such advice is meant to prevent harm, but can have a deleteriously impact on physical recovery after breast cancer surgery. In a recent study by Dr. Kathryn H. Schmitz and colleagues, participation in a year-long progressive weight lifting program reduced the incidence of lymphedema flares, as well as the number and severity of lymphedema symptoms, and also improved strength in breast cancer survivors with stable lymphedema of the arm (11).

Surgery for breast cancer, such as mastectomy or lumpectomy can also result in changes in physical appearance (i.e., breast size, shape, proportionality), which can leave some survivors feeling self-conscious about being physically active. In past studies, breast cancer survivors have reported finding physical activity situations involving changing rooms and swimming pools aversive and worrying about prostheses that take a long time to dry after swimming, or become displaced while doing aerobics (13). Moreover, physical changes associated with mastectomy and lumpectomy can make finding a proper fitting bra a challenge. In fact, bra discomfort in general, and bra band tightness, in particular, were listed among the top barriers to physical activity in a recent study with breast cancer survivors (3).

Overcoming Barriers to Physical Activity For Breast Cancer Survivors

Overcoming the many barriers to physical activity for breast cancer survivors doesn’t have to be a complicated process. A good place to start is to learn more about the benefits of physical activity for cancer survivors (12). Some survivors will read magazine articles and websites, watch video clips, and/or ask health care providers about the physical and mental

health benefits of physical activity, while many others may need encouragement to do so. Lee Jones and colleagues found that a simple recommendation to exercise by the oncologist resulted in a significant increase in physical activity among breast cancer survivors (8). Whether this effect translates to other members of the health care team has yet to be tested; however, there is no “downside” of such a strategy, and many women, especially those who are older, are likely to need additional impetus to exercise. Furthermore, support groups and interacting with other breast cancer survivors who are physically active (or perhaps reading related blogs) can be beneficial to recovery and help improve confidence that individuals with breast cancer can engage in physical activity safely and experience positive effects. Once their knowledge base has been increased and the benefits of physical activity for breast cancer survivors are established, survivors may be ready to take the next step and make a plan. See table 3 for helpful tips on this process.

Fitness professionals who work with cancer survivors can learn about the specific cancer diagnosis and treatment to make informed, safe choices about exercise testing and prescription. American College of Sports Medicine now offers certification in cancer exercise training and the ACSM ProFinder™ service (http://forms.acsm.org/_frm/crt/online_locator.asp) helps identify local American College of Sports Medicine Certified Cancer Exercise Trainers. Given the impact of cancer treatment upon numerous body systems that are affected by exercise training, fitness professionals may also benefit from contacting the oncology team for more precise information regarding the cancer treatments, or actively participate as a member of the multi-disciplinary oncology team. Exercise prescriptions must be individualized according to the breast cancer survivor's pretreatment aerobic fitness, co-morbidities, and the acute, intermediate, and persistent side effects of treatment. Red flags for circumscribing physical activity until evaluation by the survivor's oncology care team include the presence of fever, intolerance of previously tolerated work load, persistent non-physiologic fatigue, elevated resting heart rate, and poor heart rate recovery. Collaboration may be especially important for survivors who have recently completed treatment because of the impact of cancer treatments on the oxygen cascade impacting ATP synthesis and related exercise intolerance that is responsive to exercise intervention (2).

Other considerations when making a physical activity plan include deciding which activity to try first. Past studies have indicated that breast cancer survivors often prefer activities that are lower in intensity (vs. more vigorous intensity) and tailored to age and cancer-related abilities (13). Walking programs often are selected since they are low risk and do not require special training or equipment. Yoga also is growing in popularity and fulfills breast cancer survivors' preferences for holistic activities (13). In a study conducted by Dr. James W. Carson and colleagues, eight weekly yoga classes with gentle stretching poses, breathing techniques, and meditation helped improve menopausal symptoms, joint pain and sleep in breast cancer survivors with hot flashes (1). Since boredom is often cited as a barrier to exercise, the pursuit of several different activities may enhance long-term adherence. Studies have indicated that breast cancer survivors receive benefits from participating in a variety of both cardiovascular and strength training activities including resistance training with exercise bands, weight-lifting, group sports, walking, and even Tai Chi Chuan (6,10).

Once the type or types of activity has/have been selected, goals regarding frequency and duration of activity session/s should be set. The initial goal should be small to ensure success and then gradually built up over time. Survivors are encouraged to self-monitor their physical activity behavior using pedometers and activity logs, as this can help track progress towards goals and increase the survivor's confidence in the ability to be physically active post-diagnosis. Moreover, in a study conducted by Dr. Jeffrey K. H. Vallance and colleagues, breast cancer survivors who wore a pedometer and recorded their steps per day

on a calendar for 12 weeks reported improvements in time spent briskly walking and quality of life, while also experiencing decreased fatigue (14).

The next challenge to making a physical activity plan is determining how to fit these physical activity sessions into a busy schedule. Due to the numerous benefits, breast cancer survivors should be encouraged to make regular physical activity a priority and plan for it ahead of time accordingly. One strategy many people find useful is to mark physical activity appointments on the calendar and treat these sessions as seriously as doctor appointments. Survivors can also place tennis shoes by the front door and leave notes around their home and office as reminders to be physically active. Other tips for becoming more physically active include keeping a gym bag on hand as this enhances the ability to take a walk on a moment's notice. Such strategies also eliminate the need to run home to change clothes and running the risk of being side-tracked by chores or succumbing to a beckoning couch and television.

Finally, breast cancer survivors need to decide who will or will not be joining them in this physical activity. A walking partner can make the time spent exercising fly by. Past research indicates that breast cancer survivors are particularly interested in exercising with other breast cancer survivors and under the guidance of exercise instructors who are knowledgeable about breast cancer (13). Dragon boat racing and breast cancer support groups that cluster around such activity offer an accelerated opportunity to gain both support and physical activity. But, some women prefer solitude while exercising and that is okay too, especially if coordinating schedules with others is a challenge. Listening to music or watching television programs while being active can help optimize this "me time."

Comfort can also be key to enjoyment during exercise. Thus, shoes, clothes, and undergarments must fit during physical activity sessions. Obtaining a proper bra fit may be a challenge for women who have undergone mastectomies and lumpectomies, so breast cancer survivors should consider taking advantage of the complimentary fittings offered at many retail stores.

Conclusion

Historically, clinicians have advised cancer survivors to rest and to avoid lifting and strenuous activity during and after treatment; however, results from recent research have challenged this suggestion. While more studies are needed to determine the optimal dose and timing of exercise, there is a large and growing body of research evidence supporting physical activity as safe and beneficial to the health of breast cancer survivors, including those in active treatment. However, survivors can face many barriers to being physically active both during and after treatment. Some are specific to the disease, whereas others are more general. To encourage breast cancer survivors to be physically active, health care professionals should be aware of the numerous potential barriers to physical activity that may need to be addressed and help these women problem-solve as needed.

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Biography

Dori Pekmezi, Ph.D. is an Assistant Professor of Health Behavior in the School of Public Health at the University of Alabama at Birmingham where her research focuses on physical activity promotion and cancer prevention in underserved populations.

Michelle Y. Martin, Ph.D., is an Associate Professor in the Department of Medicine at the University of Alabama at Birmingham. Her research interests include promoting physical activity in healthy populations and among individuals managing a chronic disease including diabetes and cancer. She serves on the ACSM Ad hoc on Diversity Action Committee.

Elizabeth Kvale, M.D. is director of the Supportive Care and Survivorship clinical program at UAB, an Assistant Professor in the Department of Medicine, and an Associate Scientist at the UAB Comprehensive Cancer Center. Her research focuses on health services delivery for cancer survivors, management of late effects of cancer treatment, and care transitions.

Karen Meneses, Ph.D., R.N., FAAN is Professor and Associate Dean for Research in the School of Nursing, and Co-Leader of the Cancer Control and Population Sciences Program at the UAB Comprehensive Cancer Center. Her research focuses on quality of life interventions among breast cancer survivors.

Wendy Demark-Wahnefried, Ph.D., R.D. is Professor and Webb Chair of Nutrition Sciences at UAB and Associate Director of Cancer Prevention and Control at the UAB Comprehensive Cancer Center. Her research career has focused on cancer survivorship. She has led several trials promoting healthful dietary and exercise change in cancer survivors.

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Continuing Education Credit Questions

1. In general, it is safe for breast cancer survivors to participate in physical activity. **True** or false
2. In studies with breast cancer survivors, physical activity has been shown to improve all of the following, EXCEPT:
 - a. muscular strength
 - b. hair loss
 - c. sleep
 - d. bone health
 - e. depression
3. Physical activity programs do NOT need to be adapted for the individual survivor on the basis of:
 - a. eye color
 - b. treatments received
 - c. .anticipated disease trajectory
 - d. health status
4. Which statement is the most correct?
 - a. Participation in physical activity increases during treatment for breast cancer
 - b. Physical activity levels typically remain elevated for years after breast cancer treatment is completed.
 - d. The types of cancer treatments that survivors undergo can impact activity levels.
 - e. Greater decreases in physical activity were found among women who were treated with surgery only compared with women who underwent radiation and chemotherapy or who were treated with radiation only.
5. When making a plan for physical activity, determine:
 - a. What physical activity is she interested in trying first?
 - b. How much physical activity does she want to do?
 - c. Where will she do this physical activity?
 - d. When will she do this physical activity?
 - e. Who will join her?
 - f. all of the above.
6. There is some evidence that weight lifting can help reduce lymphedema symptoms in breast cancer survivors. **True** or false
7. Physical activity recommendations for breast cancer survivors include the following:
 - a. Avoid activity. No physical activity is better than some.
 - b. 150 min/week of moderate-intensity aerobic physical activity.
 - c. Six to seven weekly strength-training sessions.

d. Stretch major muscle groups and tendons once a week.

8. Please select the least correct option.

Research indicates that breast cancer survivors often prefer activities that are _____.

- a. gentle
- b. holistic
- c. vigorous
- d. tailored to age and cancer-related abilities

Figure 1.

Figure 2.

Figure 3.

Figure 4.

Figure 5.

Figure 6.

Figure 7.

Figure 8.

Figure 9.

Table 1**Benefits Associated With Physical Activity For Breast Cancer Survivors**

-
- Reduced risk for co-morbid conditions or late effects, e.g., second malignancies, cardiovascular disease and diabetes
 - Improved physical function
 - Increased aerobic fitness
 - Increased muscular strength
 - Increased flexibility
 - Improved body size (weight, body mass index, body composition, muscle mass)
 - Improved bone health
 - Increased quality of life
 - Increased energy level
 - Increased vigor/vitality
 - Reduced fatigue
 - Improved sleep
 - Decreased depression
 - Reduced anxiety
-

Table 2**Physical activity Recommendations For Breast Cancer Survivors**

-
- Be as physically active as your abilities and conditions allow.
 - Avoid inactivity. Some physical activity is better than none.
 - At least 150 min/week of moderate-intensity aerobic physical activity (or 75 min/week of vigorous-intensity) or an equivalent combination.
 - Two to three weekly strength- training sessions involving all the major muscle groups.
 - Stretch major muscle groups and tendons on days that physical activity is performed.
-

Table 3**Making A Plan For Physical Activity**

-
- What physical activity is she interested in trying first?
 - How much physical activity does she want to do?
 - Where will she do this physical activity?
 - When will she do this physical activity?
 - Who will join her? Or, will she be physically active by herself?
-