

The Role of Physical Activity in the Recovery from Breast Cancer

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Introduction

It is estimated that one in every eight women will be diagnosed with breast cancer during her lifetime. After a diagnosis of breast cancer, women are faced with difficult decisions about their health care and often feel vulnerable, frightened and out of control.¹

While the diagnosis and treatment process can be overwhelming, learning about ways to hasten recovery, including how to return to physical activity, can help women cope with breast cancer.

Studies have suggested that a physically active lifestyle is associated with improved fitness, reduced stress, improved self-image, a reduced risk of cardiovascular disease and, most recently, a reduced risk of breast cancer.^{2,3} While these findings are promising for the prevention of breast cancer and other diseases, little is known about how regular physical activity can aid in the physical and emotional recovery from breast cancer.

Returning to normal activity patterns, including regular physical activity, is thought to help both the emotional and physical recovery of breast cancer patients by increasing strength and stamina, releasing stress and increasing feelings of well-being.^{4,5} Programs such as Reach for Recovery, YWCA Encore and others have stressed the use of arm exercises for rehabilitation, yet few programs educate patients on how or when to return to more strenuous physical activity. Due to the often short time between diagnosis and treatment, health care providers may also not counsel patients on the role physical activity can play in the physical and emotional well-being of breast cancer survivors. As a trusted source of health information, health care providers could play an important role in facilitating breast

cancer survivors' recovery by providing guidelines and recommendations for returning to regular physical activity.

This report is based on a survey of 75 breast cancer survivors. The purposes of the study were: 1) to explore possible relationships between physical activity and recovery from breast cancer, and 2) to examine the role of health care providers in facilitating the return to physical activity after treatment.

Methods

The study was based on a questionnaire designed to gather information about breast cancer and physical activity from women who had used *Melpomene's Breast Cancer: A Handbook* during their diagnosis and treatment process. *Breast Cancer: A Handbook* was developed by Linda Harris, a breast cancer survivor, as a guide to help women diagnosed with breast cancer gather information and make decisions about their treatment options. The handbook includes key questions to ask health care providers, basic guidelines and references to help women make choices about treatment and self-care.

The survey included questions about when and how breast cancer was diagnosed, the amount of weekly physical activity, the importance of physical activity, how much information women received about physical activity from their health care providers and what obstacles women faced to becoming physically active after treatment. Specific questions included:

- How important is physical activity to your overall well-being?
- To what extent was physical activity discussed by your physician/nurses in relationship to your recovery process?

- How long did it take after treatment was begun to resume normal physical activity patterns?

The sample used for this study received the survey through the Minnesota Breast Cancer Coalition's newsletter. The Minnesota Breast Cancer Coalition is a grassroots advocacy organization, dedicated to fighting breast cancer through increased public awareness and breast cancer research.

Approximately 550 questionnaires were distributed with the newsletter, which reaches breast cancer survivors, doctors, nurses and other public health professionals. Seventy-five questionnaires were returned to Melpomene.

Responses to closed-ended questions were compiled and analyzed using the JMP statistics package (SAS Institute, Inc., Cary, NC). Responses to open-ended questions were also coded and analyzed.

Findings

All respondents were breast cancer survivors. On average, respondents were two to three years past diagnosis of cancer. The average age of respondents was 49. Table 1 gives the distribution of the ages of survey participants, grouped into five-year age categories.

Women were asked how they discovered their cancer. Sixty-four percent of respondents reported finding breast lumps by breast self-exam, 27% by mammograms and 8% via a physician exam. Younger women reported discovering breast lumps mainly by self-examinations, whereas older women tended to report finding lumps by physician exams and mammograms (p-value: 0.0293). Women who reported being more physi-

cally active were more likely to report having had more mammograms (p-value: 0.0979).

Respondents were also asked about their choice of breast cancer treatment: lumpectomy, mastectomy, chemotherapy and/or radiation. Of the women surveyed, 85% reported having had a mastectomy; 63% reported having had chemotherapy; 25%, radiation; and 23%, lumpectomy. (Numbers add up to more than 100% because treatments are often combined.)

As a group, the respondents reported high levels of physical activity before diagnosis: 71% reported being involved in physical activity at least three to four hours per week. Not surprisingly, women who placed a greater importance on exercise reported exercising more (p-value: 0.0009). Walking/hiking, aerobics and biking were the most popular forms of physical activity reported both before and after treatment for breast cancer. The number of women who participated in these activities decreased after treatment, as shown in Table 2.

The number of women who reported doing "nothing" for physical activity increased from two before diagnosis to 10 after diagnosis. Of those women who reported that their levels of activity decreased, many attributed this to the

Table 2
Physical Activity Patterns before and after Diagnosis of Breast Cancer

Before Diagnosis		After Diagnosis	
Type	# Participants	Type	# Participants
Walking/		Walking/	
Hiking	53	Hiking	47
Aerobics	20	Aerobics	14
Biking	17	Biking	11
Swimming	11	Nothing	10
Golf	6	Swimming	9
Nothing	2	Golf	3

effects of surgery and chemotherapy, including tiredness, weakness and worry. As some of the participants wrote,

Surgery immediately followed my diagnosis and was followed by six months of chemo. All physical activities stopped. During chemo I hardly had energy to get out of bed to care for my family.

I quit my aerobics class until chemo was over because I didn't have the endurance to continue.

I quit working out completely — I thought there was no point.

Sixty-seven percent of the respondents reported being able to return to physical activity within three months after their treatment; 43% reported that they did not face any obstacles to returning to physical activity after treatment.

Of those who reported experiencing obstacles, those most commonly mentioned were pain (53%), fatigue (37%) and feeling embarrassed (33%). Not surprisingly, women who reported facing more obstacles took longer to become physically active again (p-value: 0.1189). In particular, women who felt embarrassed or lacked encouragement tended to report having taken longer to return to physical activity.

Glossary

Lumpectomy: Surgical removal of a breast lump with a small rim of normal tissue surrounding it.

Mastectomy: Surgical removal of the breast tissue. Simple (total) mastectomy means muscles and lymph nodes are left alone.

Chemotherapy: Treatment of disease with certain chemicals. The term usually refers to cytotoxic (causing the death of cells) drugs given for cancer treatments.

Radiation Therapy: Treatment of breast cancer by x-rays or high-dose radiation to reduce or eliminate malignant cells. Most often used following lumpectomy.

Source: Harris, Linda Brown. *Breast Cancer: A Handbook*. 1992. St. Paul: Melpomene Institute.

Many women discussed the pivotal role they felt returning to physical activity played in their recovery. Along with other benefits of being physically active, such as weight control or staying in shape, women mentioned feeling that becoming physically active after treatment was a part of their healing process. Being physically active helped women regain control over their lives and their cancer. As some women mentioned,

As an active woman prior to my diagnosis of breast cancer, it was important to me to become physically active again and assume my natural lifestyle to help reassure myself mentally (as well as physically) that my treatment was fully successful and that I would be able to resume activities that I enjoyed.

Continued on next page

Table 1

Age Distribution of Participants, in Five-Year Age Categories

Age Group	Number of Participants
under 30	2
30-34	8
35-39	6
40-44	8
45-49	15
50-54	13
55-59	8
60-64	9
over 65	6

Physical Activity and Recovery from Breast Cancer, cont.

I believe that being in shape helped me get through treatments with minimal side effects. I also feel if I stay in shape and do not have a recurrence, I will have lived a healthy life. If I do have a recurrence, I will be prepared for the battle.

[Being physically active] was the single most important thing I continued to do throughout my recovery from breast cancer.

[Being physically active] built self-confidence that I could be normal again. It gave me something positive to focus on and get on with my life.

Despite the role respondents felt that physical activity played in both their physical and emotional recovery from breast cancer, only five subjects reported that physical activity during recovery was discussed "a lot" or "extensively" by their health care providers. Nearly 70% of respondents said that they received "none" or "a little" information on this topic. The five women who reported receiving information about physical activity and its role in recovery tended to return to physical activity more quickly after treatment than other women in the sample.

Discussion

The trends seen here suggest that physical activity can be an important aspect of self-care for breast cancer survivors. While many women in this study perceived that returning to physical activity after treatment was an important aspect of their recovery, few women recalled that their health care providers mentioned physical activity during office visits.

While becoming physically active after treatment may not be possible for all breast cancer survivors, health care providers should include physical activity as part of pre- and postoperative discussions with their patients.

Physical activity can promote emotional and physical recovery from breast cancer by increasing stamina, flexibility and mobility; strengthening muscles; developing aerobic capacity and preventing lymphedema, a common problem after breast surgery.⁶ Health care providers are in an ideal position to promote physical activity for patients recovering from breast cancer. As a trusted source of health information, health care providers could provide breast cancer survivors with another tool to promote emotional and physical healing by discussing physical activity during recovery.

Health care providers should provide guidelines for breast cancer patients on when and how to return to physical activity. Based on the patient's history, individual plans for returning to physical activity should be discussed, including the type and degree of physical activity most appropriate, what complications may occur and how to know one's physical limits during recovery. As a resource for health care providers and breast cancer patients alike, Joan Pagano of Joan Pagano Total Fitness and Dr. David Hidalgo of Memorial Sloan-Kettering Hospital have created a program for breast cancer survivors that includes guidelines and recommendations for returning to physical activity (see pages 21-22).

Women going through the process of breast cancer diagnosis and treatment should be aware that health care providers may not initiate conversations about physical activity. Women should consider asking questions about the use of physical activity in recovery, including how best to rebuild strength and stamina after treatment. *Melpomene's Breast Cancer: A Handbook* provides a guide for how to ask questions about this process and offers suggestions on how to use physical activity as a tool in recovery. ●

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Hanna Cooper was Melpomene's research coordinator until February 1995, when she took a position at the Minnesota Department of Health. She plans to return to Melpomene in her former role as volunteer. She enjoys cooking, hiking, biking and cross-country skiing.

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Keeping Active after Breast Surgery

Excerpts from Joan Pagano Total Fitness

Physical Activity Program for Rehabilitation After Breast Surgery

Goal

During the time of breast cancer detection, diagnosis and treatment, the goal is to maintain your normal activity level (daily routines that comprise your "lifestyle").

Objectives

- **Flexibility and Mobility**
 - for freedom of movement in arm and shoulder joints
 - to combat natural tendency of scar tissue to contract
- **Strengthening of Muscles**
 - to prevent the muscle atrophy and decline that comes from disuse
 - to relieve back pain and neck stiffness
 - to offset tightness in chest
 - for full-body conditioning
- **Postural Realignment of Back and Torso**
 - to overcome the tendency to slump as a protective action
- **Development of Aerobic Capacity**
 - to increase energy level and stamina
 - to control percent body fat and minimize weight gain that may occur during chemotherapy
- **Prevention of Lymphedema**
 - to promote drainage of lymph fluids

Benefits

- A strong body will tolerate treatment more easily.
- Physical stamina will help you manage the effects of treatment, increase self-reliance and lend you energy to enjoy life.
- Regular physical activity can help discharge tension and put your system back in balance.
- Improved feeling of well-being helps combat negative thoughts and builds self-esteem.

What to Expect after Surgery

It is normal to experience:

- Possible tightness, pulling, swelling or looseness in skin of the chest and armpit area
- Numbing and tingling of chest and inner part of upper arm
- A variety of sensations, such as sharp or shooting pains, pressure, burning
- Postoperative weakness and discomfort

Guidelines for Determining Your Rate of Progress

1. **Follow your doctor's prescribed treatment plan.**
Exercises should be begun only with physician approval and the initial assistance of a trained nurse, physical therapist or Reach to Recovery volunteer.
2. **Develop your own judgment.**
Base it on feelings of exertion and how much control you have in doing exercises. Where physical rehabilitation is concerned, *it is quality, not quantity, that counts.*
 - Use slow, controlled movements in a comfortable range of motion.
 - Upon momentary discomfort, hold the position you are in, breathe deeply and exhale slowly.
 - Stop if you feel persistent pain or fatigue.
3. **Practice moderation: Avoid the extremes.**
There is no need to "protect" yourself by doing less than you are capable of, *BUT* Do not rush or push yourself too hard. Inappropriate exercise too soon after surgery can cause more discomfort.
4. **Be consistent: Do a little bit a lot.**
Do physical activities a few times a day for short periods.
Rest when you are tired.
Try to do a little more than yesterday.
Be proud of your accomplishments.

Guidelines for Aerobic Conditioning

Regular, moderate aerobic exercise will combat the negative cycle of debilitation, when generalized weakness and fatigue contribute to further reduction in activity.

Symptoms of disuse include:

- Easy fatigue
- Breathlessness upon minimal exertion
- Soreness/stiffness of unused muscles

Reported benefits of moderate aerobic activity:

- Better muscle tone
- Increased stamina
- Feeling more fit (and therefore greater self-esteem)
- Increased ability to burn calories
- There is a psychological advantage in having the endurance and strength necessary to participate in the spectrum of activities we call our "lifestyle."
- Your body will react differently to exercise during treatment than it did before. Listen to your body to determine your limits.

All three of the major forms of cancer therapy (surgery, chemotherapy and radiation) require special exercise considerations:

Healing from *surgery* could be affected adversely by too vigorous an activity too soon in the recovery phase. Your body needs time to heal.

Chemotherapy affects your blood cells — white cells, red cells and platelets — and can reduce your capacity for exercise. Low platelet count is associated with a risk of bleeding into the joints. Certain drugs may affect your heart rate response. Check with your physician.

Radiation commonly causes fatigue, for reasons that are not clearly understood.

At four weeks after surgery, with or without an implant or tissue expander, you can begin an aggressive aerobic activity program. By six weeks, you can really be going strong!

Better choices for aerobic activities focus on the lower extremities, minimizing upper body involvement. You might consider:

- Walking program
- Stationary bike (without arm involvement)
- Stair climber

At six weeks, if your doctor approves, swimming is very good for rehabilitation of the shoulder and arm.

Aerobic activities to avoid:

- Cross-country skiing
- Rowing
- Aerobic dance

For aerobic conditioning and weight control: Do a low-impact activity at moderate intensity (60% to 75% of your estimated maximum heart rate). Work out 30 minutes, three times a week, with careful stretching and warm-up.

Continuous activities using large muscle groups can promote lymphatic as well as general circulation, more than customary exercises that involve arm movement alone. Continuous activities also will burn more calories and, therefore, aid in reducing body fat. ●

Special thanks to Dr. David A. Hidalgo, Chief of Plastic and Reconstructive Surgery at Memorial Sloan-Kettering Hospital in New York City, for reviewing the guidelines.

About Joan Pagano

Joan Pagano, a member of Melpomene Institute, is founder and president of Joan Pagano Total Fitness (JPTF), a consulting company in New York whose services include one-to-one personal fitness training, instructor training and group health/fitness programs. She is certified by the American College of Sports Medicine and is on the faculty of the Marymount Manhattan College Personal Fitness Trainer Certification Program.

For the past two years, JPTF has specialized in working with breast cancer survivors. Pagano's workshop series, "Whole Body Fitness/Whole Body Movement," delivers exercise guidelines for postoperative breast surgery patients who want to integrate a higher level of physical activity and safe exercise into their individual routines.

Joan Pagano Total Fitness is located at 401 East 89 Street, New York, New York 10128. Phone: (212) 722-8116.